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(54) Title: COMPOUNDS FOR IMMUNOTHERAPY AND DIAGNOSIS OF COLON CANCER AND METHODS FOR THEIR USE

(57) Abstract: Compositions and methods for the therapy and diagnosis of cancer, such as colon cancer, are disclosed. Compositions may comprise one or more colon tumor proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell that expresses a colon tumor protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as colon cancer. Diagnostic methods based on detecting a colon tumor protein, or mRNA encoding such a protein, in a sample are also provided.

WO 01/49716 A2

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COMPOUNDS FOR IMMUNOTHERAPY AND DIAGNOSIS OF COLON CANCER AND METHODS FOR THEIR USE

TECHNICAL FIELD

5 The present invention relates generally to therapy and diagnosis of cancer, such as colon cancer. The invention is more specifically related to polypeptides comprising at least a portion of a colon tumor protein, and to polynucleotides encoding such polypeptides. Such polypeptides and polynucleotides may be used in vaccines and pharmaceutical compositions for prevention and
10 treatment of colon cancer, and for the diagnosis and monitoring of such cancers.

BACKGROUND OF THE INVENTION

Cancer is a significant health problem throughout the world. Although advances have been made in detection and therapy of cancer, no vaccine or other universally successful method for prevention or treatment is currently available.
15 Current therapies, which are generally based on a combination of chemotherapy or surgery and radiation, continue to prove inadequate in many patients.

Colon cancer is the second most frequently diagnosed malignancy in the United States as well as the second most common cause of cancer death. An estimated 95,600 new cases of colon cancer will be diagnosed in 1998, with an
20 estimated 47,700 deaths. The five-year survival rate for patients with colorectal cancer detected in an early localized stage is 92%; unfortunately, only 37% of colorectal cancer is diagnosed at this stage. The survival rate drops to 64% if the cancer is allowed to spread to adjacent organs or lymph nodes, and to 7% in patients with distant metastases.

25 The prognosis of colon cancer is directly related to the degree of penetration of the tumor through the bowel wall and the presence or absence of nodal involvement, consequently, early detection and treatment are especially important. Currently, diagnosis is aided by the use of screening assays for fecal occult blood, sigmoidoscopy, colonoscopy and double contrast barium enemas. Treatment

regimens are determined by the type and stage of the cancer, and include surgery, radiation therapy and/or chemotherapy. Recurrence following surgery (the most common form of therapy) is a major problem and is often the ultimate cause of death. In spite of considerable research into therapies for the disease, colon cancer remains difficult to diagnose and treat. In spite of considerable research into therapies for these and other cancers, colon cancer remains difficult to diagnose and treat effectively. Accordingly, there is a need in the art for improved methods for detecting and treating such cancers. The present invention fulfills these needs and further provides other related advantages.

10 SUMMARY OF THE INVENTION

Briefly stated, the present invention provides compositions and methods for the diagnosis and therapy of cancer, such as colon cancer. In one aspect, the present invention provides polypeptides comprising at least a portion of a colon tumor protein, or a variant thereof. Certain portions and other variants are immunogenic, such that the ability of the variant to react with antigen-specific antisera is not substantially diminished. Within certain embodiments, the polypeptide comprises a sequence that is encoded by a polynucleotide sequence selected from the group consisting of: (a) sequences recited in SEQ ID NO: 1-121, 123-197, 205-630, 632-684, 686, 690-691 and 694-1081; (b) variants of a sequence recited in SEQ ID NO: 1-121, 123-197, 205-630 and 632-684, 686, 690-691 and 694-1081; and (c) complements of a sequence of (a) or (b).

The present invention further provides polynucleotides that encode a polypeptide as described above, or a portion thereof (such as a portion encoding at least 15 amino acid residues of a colon tumor protein), expression vectors comprising such polynucleotides and host cells transformed or transfected with such expression vectors.

Within other aspects, the present invention provides pharmaceutical compositions comprising a polypeptide or polynucleotide as described above and a physiologically acceptable carrier.

Within a related aspect of the present invention, vaccines are provided. Such vaccines comprise a polypeptide or polynucleotide as described above and an immunostimulant.

The present invention further provides pharmaceutical compositions
5 that comprise: (a) an antibody or antigen-binding fragment thereof that specifically binds to a colon tumor protein; and (b) a physiologically acceptable carrier.

Within further aspects, the present invention provides pharmaceutical compositions comprising: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a pharmaceutically acceptable carrier or excipient.
10 Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B cells.

Within related aspects, vaccines are provided that comprise: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) an immunostimulant.

15 The present invention further provides, in other aspects, fusion proteins that comprise at least one polypeptide as described above, as well as polynucleotides encoding such fusion proteins.

Within related aspects, pharmaceutical compositions comprising a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a
20 physiologically acceptable carrier are provided.

Vaccines are further provided, within other aspects, that comprise a fusion protein, or a polynucleotide encoding a fusion protein, in combination with an immunostimulant.

Within further aspects, the present invention provides methods for
25 inhibiting the development of a cancer in a patient, comprising administering to a patient a pharmaceutical composition or vaccine as recited above.

The present invention further provides, within other aspects, methods for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a colon tumor protein, wherein the step
30 of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the protein from the sample.

Within related aspects, methods are provided for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated as described above.

Methods are further provided, within other aspects, for stimulating
5 and/or expanding T cells specific for a colon tumor protein, comprising contacting T cells with one or more of: (i) a polypeptide as described above; (ii) a polynucleotide encoding such a polypeptide; and/or (iii) an antigen presenting cell that expresses such a polypeptide; under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells. Isolated T cell populations comprising T cells prepared
10 as described above are also provided.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population as described above.

The present invention further provides methods for inhibiting the
15 development of a cancer in a patient, comprising the steps of: (a) incubating $CD4^{+}$ and/or $CD8^{+}$ T cells isolated from a patient with one or more of: (i) a polypeptide comprising at least an immunogenic portion of a colon tumor protein; (ii) a polynucleotide encoding such a polypeptide; and (iii) an antigen-presenting cell that expresses such a polypeptide; and (b) administering to the patient an effective amount
20 of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient. Proliferated cells may, but need not, be cloned prior to administration to the patient.

Within further aspects, the present invention provides methods for determining the presence or absence of a cancer in a patient, comprising: (a)
25 contacting a biological sample obtained from a patient with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; and (c) comparing the amount of polypeptide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within preferred embodiments, the
30 binding agent is an antibody, more preferably a monoclonal antibody. The cancer may be colon cancer.

The present invention also provides, within other aspects, methods for monitoring the progression of a cancer in a patient. Such methods comprise the steps of: (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polypeptide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

The present invention further provides, within other aspects, methods for determining the presence or absence of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a colon tumor protein; (b) detecting in the sample a level of a polynucleotide, preferably mRNA, that hybridizes to the oligonucleotide; and (c) comparing the level of polynucleotide that hybridizes to the oligonucleotide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within certain embodiments, the amount of mRNA is detected via polymerase chain reaction using, for example, at least one oligonucleotide primer that hybridizes to a polynucleotide encoding a polypeptide as recited above, or a complement of such a polynucleotide. Within other embodiments, the amount of mRNA is detected using a hybridization technique, employing an oligonucleotide probe that hybridizes to a polynucleotide that encodes a polypeptide as recited above, or a complement of such a polynucleotide.

In related aspects, methods are provided for monitoring the progression of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a colon tumor protein; (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polynucleotide detected in step (c) with the amount

detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

Within further aspects, the present invention provides antibodies, such as monoclonal antibodies, that bind to a polypeptide as described above, as well as
5 diagnostic kits comprising such antibodies. Diagnostic kits comprising one or more oligonucleotide probes or primers as described above are also provided.

These and other aspects of the present invention will become apparent upon reference to the following detailed description and attached figures. All references disclosed herein are hereby incorporated by reference in their entirety as if
10 each was incorporated individually.

SEQUENCE IDENTIFIERS

SEQ ID NO: 1 is a first determined cDNA sequence for Contig 1, showing homology to Neutrophil Gelatinase Associated Lipocalin.

SEQ ID NO: 2 is the determined cDNA sequence for Contig 2, showing no
15 significant homology to any known genes.

SEQ ID NO: 3 is the determined cDNA sequence for Contig 4, showing homology to Carcinoembryonic antigen.

SEQ ID NO: 4 is the determined cDNA sequence for Contig 5, showing homology to Carcinoembryonic antigen.

20 SEQ ID NO: 5 is the determined cDNA sequence for Contig 9, showing homology to Carcinoembryonic antigen.

SEQ ID NO: 6 is the determined cDNA sequence for Contig 52, showing homology to Carcinoembryonic antigen.

25 SEQ ID NO: 7 is the determined cDNA sequence for Contig 6, showing homology to Villin.

SEQ ID NO: 8 is the determined cDNA sequence for Contig 8, showing no significant homology to any known genes.

SEQ ID NO: 9 is the determined cDNA sequence for Contig 10, showing homology to Transforming Growth Factor (BIGH3).

SEQ ID NO: 10 is the determined cDNA sequence for Contig 19, showing homology to Transforming Growth Factor (BIGH3).

SEQ ID NO: 11 is the determined cDNA sequence for Contig 21, showing homology to Transforming Growth Factor (BIGH3).

5 SEQ ID NO: 12 is the determined cDNA sequence for Contig 11, showing homology to CO-029.

SEQ ID NO: 13 is the determined cDNA sequence for Contig 55, showing homology to CO-029.

10 SEQ ID NO: 14 is the determined cDNA sequence for Contig 12, showing homology to Chromosome 17, clone hRPC.1171_I_10, also referred to as C798P.

SEQ ID NO: 15 is the determined cDNA sequence for Contig 13, showing no significant homology to any known gene.

SEQ ID NO: 16 is the determined cDNA sequence for Contig 14, also referred to as 14261, showing no significant homology to any known gene.

15 SEQ ID NO: 17 is the determined cDNA sequence for Contig 15, showing homology to Ets-Related Transcription Factor (ERT).

SEQ ID NO: 18 is the determined cDNA sequence for Contig 16, showing homology to Chromosome 5, PAC clone 228g9 (LBNL H142).

20 SEQ ID NO: 19 is the determined cDNA sequence for Contig 24, showing homology to Chromosome 5, PAC clone 228g9 (LBNL H142).

SEQ ID NO: 20 is the determined cDNA sequence for Contig 17, showing homology to Cytokeratin.

SEQ ID NO: 21 is the determined cDNA sequence for Contig 18, showing homology to L1-Cadherin.

25 SEQ ID NO: 22 is the determined cDNA sequence for Contig 20, showing no significant homology to any known gene.

SEQ ID NO: 23 is the determined cDNA sequence for Contig 22, showing homology to Bumetanide-sensitive Na-K-Cl cotransporter (NKCC1).

30 SEQ ID NO: 24 is the determined cDNA sequence for Contig 23, showing no significant homology to any known gene.

SEQ ID NO: 25 is the determined cDNA sequence for Contig 25, showing homology to Macrophage Inflammatory Protein 3 alpha.

SEQ ID NO: 26 is the determined cDNA sequence for Contig 26, showing homology to Laminin.

5 SEQ ID NO: 27 is the determined cDNA sequence for Contig 48, showing homology to Laminin.

SEQ ID NO: 28 is the determined cDNA sequence for Contig 27, showing homology to Myotubularin (MTM1).

10 SEQ ID NO: 29 is the determined cDNA sequence for Contig 28, showing homology to Chromosome 16 BAC clone CIT987SK-A-363E6.

SEQ ID NO: 30 is the determined cDNA sequence for Contig 29, also referred to as C751P and 14247, showing no significant homology to any known gene, but partial homology to Rat GSK-3 β -interacting protein Axil homolog.

15 SEQ ID NO: 31 is the determined cDNA sequence for Contig 30, showing homology to Zinc Finger Transcription Factor (ZNF207).

SEQ ID NO: 32 is the determined cDNA sequence for Contig 31, showing no significant homology to any known gene, but partial homology to Mus musculus GOB-4 homolog.

20 SEQ ID NO: 33 is the determined cDNA sequence for Contig 35, showing no significant homology to any known gene, but partial homology to Mus musculus GOB-4 homolog.

SEQ ID NO: 34 is the determined cDNA sequence for Contig 32, showing no significant homology to any known gene.

25 SEQ ID NO: 35 is the determined cDNA sequence for Contig 34, showing homology to Desmoglein 2.

SEQ ID NO: 36 is the determined cDNA sequence for Contig 36, showing no significant homology to any known gene.

SEQ ID NO: 37 is the determined cDNA sequence for Contig 37, showing homology to Putative Transmembrane Protein.

30 SEQ ID NO: 38 is the determined cDNA sequence for Contig 38, also referred to as C796P and 14219, showing no significant homology to any known gene.

SEQ ID NO: 39 is the determined cDNA sequence for Contig 40, showing homology to Nonspecific Cross-reacting Antigen.

SEQ ID NO: 40 is the determined cDNA sequence for Contig 41, also referred to as C799P and 14308, showing no significant homology to any known gene.

5 SEQ ID NO: 41 is the determined cDNA sequence for Contig 42, also referred to as C794P and 14309, showing no significant homology to any known gene.

SEQ ID NO: 42 is the determined cDNA sequence for Contig 43, showing homology to Chromosome 1 specific transcript KIAA0487.

10 SEQ ID NO: 43 is the determined cDNA sequence for Contig 45, showing homology to hMCM2.

SEQ ID NO: 44 is the determined cDNA sequence for Contig 46, showing homology to ETS2.

SEQ ID NO: 45 is the determined cDNA sequence for Contig 49, showing homology to Pump-1.

15 SEQ ID NO: 46 is the determined cDNA sequence for Contig 50, also referred to as C792P and 18323, showing no significant homology to any known gene.

SEQ ID NO: 47 is the determined cDNA sequence for Contig 51, also referred to as C795P and 14317, showing no significant homology to any known gene.

20 SEQ ID NO: 48 is the determined cDNA sequence for 11092, showing no significant homology to any known gene.

SEQ ID NO: 49 is the determined cDNA sequence for 11093, showing no significant homology to any known gene.

SEQ ID NO: 50 is the determined cDNA sequence for 11094, showing homology Human Putative Enterocyte Differentiation Protein.

25 SEQ ID NO: 51 is the determined cDNA sequence for 11095, showing homology to Human Transcriptional Corepressor hKAP1/TIF1B mRNA.

SEQ ID NO: 52 is the determined cDNA sequence for 11096, showing no significant homology to any known gene.

30 SEQ ID NO: 53 is the determined cDNA sequence for 11097, showing homology to Human Nonspecific Antigen.

SEQ ID NO: 54 is the determined cDNA sequence for 11098, showing no significant homology to any known gene.

SEQ ID NO: 55 is the determined cDNA sequence for 11099, showing homology to Human Pancreatic Secretory Inhibitor (PST) mRNA.

5 SEQ ID NO: 56 is the determined cDNA sequence for 11186, showing homology to Human Pancreatic Secretory Inhibitor (PST) mRNA.

SEQ ID NO: 57 is the determined cDNA sequence for 11101, showing homology to Human Chromosome X.

10 SEQ ID NO: 58 is the determined cDNA sequence for 11102, showing homology to Human Chromosome X.

SEQ ID NO: 59 is the determined cDNA sequence for 11103, showing no significant homology to any known gene.

SEQ ID NO: 60 is the determined cDNA sequence for 11174, showing no significant homology to any known gene.

15 SEQ ID NO: 61 is the determined cDNA sequence for 11104, showing homology to Human mRNA for KIAA0154.

SEQ ID NO: 62 is the determined cDNA sequence for 11105, showing homology to Human Apurinic/Apyrimidinic Endonuclease (hap1)mRNA.

20 SEQ ID NO: 63 is the determined cDNA sequence for 11106, showing homology to Human Chromosome 12p13.

SEQ ID NO: 64 is the determined cDNA sequence for 11107, showing homology to Human 90 kDa Heat Shock Protein.

SEQ ID NO: 65 is the determined cDNA sequence for 11108, showing no significant homology to any known gene.

25 SEQ ID NO: 66 is the determined cDNA sequence for 11112, showing no significant homology to any known gene.

SEQ ID NO: 67 is the determined cDNA sequence for 11115, showing no significant homology to any known gene.

30 SEQ ID NO: 68 is the determined cDNA sequence for 11117, showing no significant homology to any known gene.

SEQ ID NO: 69 is the determined cDNA sequence for 11118, showing no significant homology to any known gene.

SEQ ID NO: 70 is the determined cDNA sequence for 11119, showing homology to Human Elongation Factor 1-alpha.

5 SEQ ID NO: 71 is the determined cDNA sequence for 11121, showing homology to Human Lamin B Receptor (LBR) mRNA.

SEQ ID NO: 72 is the determined cDNA sequence for 11122, showing homology to H. sapiens mRNA for Novel Glucocorticoid.

10 SEQ ID NO: 73 is the determined cDNA sequence for 11123, showing homology to H. sapiens mRNA for snRNP protein B.

SEQ ID NO: 74 is the determined cDNA sequence for 11124, showing homology to Human Cisplatin Resistance Associated Beta-protein.

SEQ ID NO: 75 is the determined cDNA sequence for 11127, showing homology to M. musculus Calumenin mRNA.

15 SEQ ID NO: 76 is the determined cDNA sequence for 11128, showing homology to Human ras-related small GTP binding protein.

SEQ ID NO: 77 is the determined cDNA sequence for 11130, showing homology to Human Cosmid U169d2.

20 SEQ ID NO: 78 is the determined cDNA sequence for 11131, showing homology to H. sapiens mRNA for protein homologous to Elongation 1-g.

SEQ ID NO: 79 is the determined cDNA sequence for 11134, showing no significant homology to any known gene.

SEQ ID NO: 80 is the determined cDNA sequence for 11135, showing homology to H. sapiens Nieman-Pick (NPC1) mRNA.

25 SEQ ID NO: 81 is the determined cDNA sequence for 11137, showing homology to H. sapiens mRNA for Niecin b-chain.

SEQ ID NO: 82 is the determined cDNA sequence for 11138, showing homology to Human Endogenous Retroviral Protease mRNA.

30 SEQ ID NO: 83 is the determined cDNA sequence for 11139, showing homology to H. sapiens mRNA for DMBT1 protein.

SEQ ID NO: 84 is the determined cDNA sequence for 11140, showing homology to H. sapiens ras GTPase activating-like protein.

SEQ ID NO: 85 is the determined cDNA sequence for 11143, showing homology to Human Acidic Ribosomal Phosphoprotein PO mRNA.

5 SEQ ID NO: 86 is the determined cDNA sequence for 11144, showing homology to H. sapiens U21 mRNA.

SEQ ID NO: 87 is the determined cDNA sequence for 11145, showing homology to Human GTP-binding protein.

10 SEQ ID NO: 88 is the determined cDNA sequence for 11148, showing homology to H. sapiens U21 mRNA.

SEQ ID NO: 89 is the determined cDNA sequence for 11151, showing no significant homology to any known gene.

SEQ ID NO: 90 is the determined cDNA sequence for 11154, showing no significant homology to any known gene.

15 SEQ ID NO: 91 is the determined cDNA sequence for 11156, showing homology to H. sapiens Ribosomal Protein L27.

SEQ ID NO: 92 is the determined cDNA sequence for 11157, showing homology to H. sapiens Ribosomal Protein L27.

20 SEQ ID NO: 93 is the determined cDNA sequence for 11158, showing no significant homology to any known gene.

SEQ ID NO: 94 is the determined cDNA sequence for 11162, showing homology to Ag-X antigen.

SEQ ID NO: 95 is the determined cDNA sequence for 11164, showing homology to H. sapiens mRNA for Signal Recognition Protein sub14.

25 SEQ ID NO: 96 is the determined cDNA sequence for 11165, showing homology to Human PAC 204e5/127h14.

SEQ ID NO: 97 is the determined cDNA sequence for 11166, showing homology to Human mRNA for KIAA0108.

30 SEQ ID NO: 98 is the determined cDNA sequence for 11167, showing homology to H. sapiens mRNA for Neutrophil Gelatinase assct. Lipocalin.

SEQ ID NO: 99 is the determined cDNA sequence for 11168, showing no significant homology to any known gene.

SEQ ID NO: 100 is the determined cDNA sequence for 11172, showing no significant homology to any known gene.

5 SEQ ID NO: 101 is the determined cDNA sequence for 11175, showing no significant homology to any known gene.

SEQ ID NO: 102 is the determined cDNA sequence for 11176, showing homology to Human maspin mRNA.

10 SEQ ID NO: 103 is the determined cDNA sequence for 11177, showing homology to Human Carcinoembryonic Antigen.

SEQ ID NO: 104 is the determined cDNA sequence for 11178, showing homology to Human A-Tubulin mRNA.

SEQ ID NO: 105 is the determined cDNA sequence for 11179, showing homology to Human mRNA for proton-ATPase-like protein.

15 SEQ ID NO: 106 is the determined cDNA sequence for 11180, showing homology to Human HepG2 3' region cDNA clone hmd.

SEQ ID NO: 107 is the determined cDNA sequence for 11182, showing homology to Human MHC homologous to Chicken B-Complex Protein.

20 SEQ ID NO: 108 is the determined cDNA sequence for 11183, showing homology to Human High Mobility Group Box (SSRP1) mRNA.

SEQ ID NO: 109 is the determined cDNA sequence for 11184, showing no significant homology to any known gene.

SEQ ID NO: 110 is the determined cDNA sequence for 11185, showing no significant homology to any known gene.

25 SEQ ID NO: 111 is the determined cDNA sequence for 11187, showing no significant homology to any known gene.

SEQ ID NO: 112 is the determined cDNA sequence for 11190, showing homology to Human Replication Protein A 70kDa.

30 SEQ ID NO: 113 is the determined cDNA sequence for Contig 47, also referred to as C797P, showing homology to Human Chromosome X clone bW XD342.

SEQ ID NO: 114 is the determined cDNA sequence for Contig 7, showing homology to Equilibrative Nucleoside Transporter 2 (ent2).

SEQ ID NO: 115 is the determined cDNA sequence for 14235.1, also referred to as C791P, showing homology to H. sapiens chromosome 21 derived BAC
5 containing ets-2 gene.

SEQ ID NO: 116 is the determined cDNA sequence for 14287.2, showing no significant homology to any known gene, but some degree of homology to Putative Transmembrane Protein.

SEQ ID NO: 117 is the determined cDNA sequence for 14233.1, also referred
10 to as Contig 48, showing no significant homology to any known gene.

SEQ ID NO: 118 is the determined cDNA sequence for 14298.2, also referred to as C793P, showing no significant homology to any known gene.

SEQ ID NO: 119 is the determined cDNA sequence for 14372, also referred to as Contig 44, showing no significant homology to any known gene.

15 SEQ ID NO: 120 is the determined cDNA sequence for 14295, showing homology to secreted cement gland protein XAG-2 homolog.

SEQ ID NO: 121 is the determined full-length cDNA sequence for a clone showing homology to Beta IG-H3.

SEQ ID NO: 122 is the predicted amino acid sequence for the clone of SEQ ID
20 NO: 121.

SEQ ID NO: 123 is a longer determined cDNA sequence for C751P.

SEQ ID NO: 124 is a longer determined cDNA sequence for C791P.

SEQ ID NO: 125 is a longer determined cDNA sequence for C792P.

SEQ ID NO: 126 is a longer determined cDNA sequence for C793P.

25 SEQ ID NO: 127 is a longer determined cDNA sequence for C794P.

SEQ ID NO: 128 is a longer determined cDNA sequence for C795P.

SEQ ID NO: 129 is a longer determined cDNA sequence for C796P.

SEQ ID NO: 130 is a longer determined cDNA sequence for C797P.

SEQ ID NO: 131 is a longer determined cDNA sequence for C798P.

30 SEQ ID NO: 132 is a longer determined cDNA sequence for C799P.

SEQ ID NO: 133 is a first partial determined cDNA sequence for CoSub-3 (also known as 23569).

SEQ ID NO: 134 is a second partial determined cDNA sequence for CoSub-3 (also known as 23569).

5 SEQ ID NO: 135 is a first partial determined cDNA sequence for CoSub-13 (also known as 23579).

SEQ ID NO: 136 is a second partial determined cDNA sequence for CoSub-13 (also known as 23579).

10 SEQ ID NO: 137 is the determined cDNA sequence for CoSub-17 (also known as 23583).

SEQ ID NO: 138 is the determined cDNA sequence for CoSub-19 (also known as 23585).

SEQ ID NO: 139 is the determined cDNA sequence for CoSub-22 (also known as 23714).

15 SEQ ID NO: 140 is the determined cDNA sequence for CoSub-23 (also known as 23715).

SEQ ID NO: 141 is the determined cDNA sequence for CoSub-26 (also known as 23717).

20 SEQ ID NO: 142 is the determined cDNA sequence for CoSub-33 (also known as 23724).

SEQ ID NO: 143 is the determined cDNA sequence for CoSub-34 (also known as 23725).

SEQ ID NO: 144 is the determined cDNA sequence for CoSub-35 (also known as 23726).

25 SEQ ID NO: 145 is the determined cDNA sequence for CoSub-37 (also known as 23728).

SEQ ID NO: 146 is the determined cDNA sequence for CoSub-39 (also known as 23730).

30 SEQ ID NO: 147 is the determined cDNA sequence for CoSub-42 (also known as 23766).

SEQ ID NO: 148 is the determined cDNA sequence for CoSub-44 (also known as 23768).

SEQ ID NO: 149 is the determined cDNA sequence for CoSub-47 (also known as 23771).

5 SEQ ID NO: 150 is the determined cDNA sequence for CoSub-54 (also known as 23778).

SEQ ID NO: 151 is the determined cDNA sequence for CoSub-55 (also known as 23779).

10 SEQ ID NO: 152 is the determined cDNA sequence for CT1 (also known as 24099).

SEQ ID NO: 153 is the determined cDNA sequence for CT2 (also known as 24100).

SEQ ID NO: 154 is the determined cDNA sequence for CT3 (also known as 24101).

15 SEQ ID NO: 155 is the determined cDNA sequence for CT6 (also known as 24104).

SEQ ID NO: 156 is the determined cDNA sequence for CT7 (also known as 24105).

20 SEQ ID NO: 157 is the determined cDNA sequence for CT12 (also known as 24110).

SEQ ID NO: 158 is the determined cDNA sequence for CT13 (also known as 24111).

SEQ ID NO: 159 is the determined cDNA sequence for CT14 (also known as 24112).

25 SEQ ID NO: 160 is the determined cDNA sequence for CT15 (also known as 24113).

SEQ ID NO: 161 is the determined cDNA sequence for CT17 (also known as 24115).

30 SEQ ID NO: 162 is the determined cDNA sequence for CT18 (also known as 24116).

SEQ ID NO: 163 is the determined cDNA sequence for CT22 (also known as 23848).

SEQ ID NO: 164 is the determined cDNA sequence for CT24 (also known as 23849).

5 SEQ ID NO: 165 is the determined cDNA sequence for CT31 (also known as 23854).

SEQ ID NO: 166 is the determined cDNA sequence for CT34 (also known as 23856).

10 SEQ ID NO: 167 is the determined cDNA sequence for CT37 (also known as 23859).

SEQ ID NO: 168 is the determined cDNA sequence for CT39 (also known as 23860).

SEQ ID NO: 169 is the determined cDNA sequence for CT40 (also known as 23861).

15 SEQ ID NO: 170 is the determined cDNA sequence for CT51 (also known as 24130).

SEQ ID NO: 171 is the determined cDNA sequence for CT53 (also known as 24132).

20 SEQ ID NO: 172 is the determined cDNA sequence for CT63 (also known as 24595).

SEQ ID NO: 173 is the determined cDNA sequence for CT88 (also known as 24608).

SEQ ID NO: 174 is the determined cDNA sequence for CT92 (also known as 24800).

25 SEQ ID NO: 175 is the determined cDNA sequence for CT94 (also known as 24802).

SEQ ID NO: 176 is the determined cDNA sequence for CT102 (also known as 24805).

30 SEQ ID NO: 177 is the determined cDNA sequence for CT103 (also known as 24806).

SEQ ID NO: 178 is the determined cDNA sequence for CT111 (also known as 25520).

SEQ ID NO: 179 is the determined cDNA sequence for CT118 (also known as 25522).

5 SEQ ID NO: 180 is the determined cDNA sequence for CT121 (also known as 25523).

SEQ ID NO: 181 is the determined cDNA sequence for CT126 (also known as 25527).

10 SEQ ID NO: 182 is the determined cDNA sequence for CT135 (also known as 25534).

SEQ ID NO: 183 is the determined cDNA sequence for CT140 (also known as 25537).

SEQ ID NO: 184 is the determined cDNA sequence for CT145 (also known as 25542).

15 SEQ ID NO: 185 is the determined cDNA sequence for CT147 (also known as 25543).

SEQ ID NO: 186 is the determined cDNA sequence for CT148 (also known as 25544).

20 SEQ ID NO: 187 is the determined cDNA sequence for CT502 (also known as 26420).

SEQ ID NO: 188 is the determined cDNA sequence for CT507 (also known as 26425).

SEQ ID NO: 189 is the determined cDNA sequence for CT521 (also known as 27366).

25 SEQ ID NO: 190 is the determined cDNA sequence for CT544 (also known as 27375).

SEQ ID NO: 191 is the determined cDNA sequence for CT577 (also known as 27385).

30 SEQ ID NO: 192 is the determined cDNA sequence for CT580 (also known as 27387).

SEQ ID NO: 193 is the determined cDNA sequence for CT594 (also known as 27540).

SEQ ID NO: 194 is the determined cDNA sequence for CT606 (also known as 27547).

5 SEQ ID NO: 195 is the determined cDNA sequence for CT607 (also known as 27548).

SEQ ID NO: 196 is the determined cDNA sequence for CT599 (also known as 27903).

10 SEQ ID NO: 197 is the determined cDNA sequence for CT632 (also known as 27922).

SEQ ID NO: 198 is the predicted amino acid sequence for CT502 (SEQ ID NO: 187).

SEQ ID NO: 199 is the predicted amino acid sequence for CT507 (SEQ ID NO: 188).

15 SEQ ID NO: 200 is the predicted amino acid sequence for CT521 (SEQ ID NO: 189).

SEQ ID NO: 201 is the predicted amino acid sequence for CT544 (SEQ ID NO: 190).

20 SEQ ID NO: 202 is the predicted amino acid sequence for CT606 (SEQ ID NO: 194).

SEQ ID NO: 203 is the predicted amino acid sequence for CT607 (SEQ ID NO: 195).

SEQ ID NO: 204 is the predicted amino acid sequence for CT632 (SEQ ID NO: 197).

25 SEQ ID NO: 205 is the determined cDNA sequence for clone 25244.

SEQ ID NO: 206 is the determined cDNA sequence for clone 25245.

SEQ ID NO: 207 is the determined cDNA sequence for clone 25246.

SEQ ID NO: 208 is the determined cDNA sequence for clone 25248.

SEQ ID NO: 209 is the determined cDNA sequence for clone 25249.

30 SEQ ID NO: 210 is the determined cDNA sequence for clone 25250.

SEQ ID NO: 211 is the determined cDNA sequence for clone 25251.

SEQ ID NO: 212 is the determined cDNA sequence for clone 25252.
SEQ ID NO: 213 is the determined cDNA sequence for clone 25253.
SEQ ID NO: 214 is the determined cDNA sequence for clone 25254.
SEQ ID NO: 215 is the determined cDNA sequence for clone 25255.
5 SEQ ID NO: 216 is the determined cDNA sequence for clone 25256.
SEQ ID NO: 217 is the determined cDNA sequence for clone 25257.
SEQ ID NO: 218 is the determined cDNA sequence for clone 25259.
SEQ ID NO: 219 is the determined cDNA sequence for clone 25260.
SEQ ID NO: 220 is the determined cDNA sequence for clone 25261.
10 SEQ ID NO: 221 is the determined cDNA sequence for clone 25262.
SEQ ID NO: 222 is the determined cDNA sequence for clone 25263.
SEQ ID NO: 223 is the determined cDNA sequence for clone 25264.
SEQ ID NO: 224 is the determined cDNA sequence for clone 25265.
SEQ ID NO: 225 is the determined cDNA sequence for clone 25266.
15 SEQ ID NO: 226 is the determined cDNA sequence for clone 25267.
SEQ ID NO: 227 is the determined cDNA sequence for clone 25268.
SEQ ID NO: 228 is the determined cDNA sequence for clone 25269.
SEQ ID NO: 229 is the determined cDNA sequence for clone 25271.
SEQ ID NO: 230 is the determined cDNA sequence for clone 25272.
20 SEQ ID NO: 231 is the determined cDNA sequence for clone 25273.
SEQ ID NO: 232 is the determined cDNA sequence for clone 25274.
SEQ ID NO: 233 is the determined cDNA sequence for clone 25275.
SEQ ID NO: 234 is the determined cDNA sequence for clone 25276.
SEQ ID NO: 235 is the determined cDNA sequence for clone 25277.
25 SEQ ID NO: 236 is the determined cDNA sequence for clone 25278.
SEQ ID NO: 237 is the determined cDNA sequence for clone 25280.
SEQ ID NO: 238 is the determined cDNA sequence for clone 25281.
SEQ ID NO: 239 is the determined cDNA sequence for clone 25282.
SEQ ID NO: 240 is the determined cDNA sequence for clone 25283.
30 SEQ ID NO: 241 is the determined cDNA sequence for clone 25284.
SEQ ID NO: 242 is the determined cDNA sequence for clone 25285.

SEQ ID NO: 243 is the determined cDNA sequence for clone 25286.
SEQ ID NO: 244 is the determined cDNA sequence for clone 25287.
SEQ ID NO: 245 is the determined cDNA sequence for clone 25288.
SEQ ID NO: 246 is the determined cDNA sequence for clone 25289.
5 SEQ ID NO: 247 is the determined cDNA sequence for clone 25290.
SEQ ID NO: 248 is the determined cDNA sequence for clone 25291.
SEQ ID NO: 249 is the determined cDNA sequence for clone 25292.
SEQ ID NO: 250 is the determined cDNA sequence for clone 25293.
SEQ ID NO: 251 is the determined cDNA sequence for clone 25294.
10 SEQ ID NO: 252 is the determined cDNA sequence for clone 25295.
SEQ ID NO: 253 is the determined cDNA sequence for clone 25296.
SEQ ID NO: 254 is the determined cDNA sequence for clone 25297.
SEQ ID NO: 255 is the determined cDNA sequence for clone 25418.
SEQ ID NO: 256 is the determined cDNA sequence for clone 25419.
15 SEQ ID NO: 257 is the determined cDNA sequence for clone 25420.
SEQ ID NO: 258 is the determined cDNA sequence for clone 25421.
SEQ ID NO: 259 is the determined cDNA sequence for clone 25422.
SEQ ID NO: 260 is the determined cDNA sequence for clone 25423.
SEQ ID NO: 261 is the determined cDNA sequence for clone 25424.
20 SEQ ID NO: 262 is the determined cDNA sequence for clone 25426.
SEQ ID NO: 263 is the determined cDNA sequence for clone 25427.
SEQ ID NO: 264 is the determined cDNA sequence for clone 25428.
SEQ ID NO: 265 is the determined cDNA sequence for clone 25429.
SEQ ID NO: 266 is the determined cDNA sequence for clone 25430.
25 SEQ ID NO: 267 is the determined cDNA sequence for clone 25431.
SEQ ID NO: 268 is the determined cDNA sequence for clone 25432.
SEQ ID NO: 269 is the determined cDNA sequence for clone 25433.
SEQ ID NO: 270 is the determined cDNA sequence for clone 25434.
SEQ ID NO: 271 is the determined cDNA sequence for clone 25435.
30 SEQ ID NO: 272 is the determined cDNA sequence for clone 25436.
SEQ ID NO: 273 is the determined cDNA sequence for clone 25437.

SEQ ID NO: 274 is the determined cDNA sequence for clone 25438.
SEQ ID NO: 275 is the determined cDNA sequence for clone 25439.
SEQ ID NO: 276 is the determined cDNA sequence for clone 25440.
SEQ ID NO: 277 is the determined cDNA sequence for clone 25441.
5 SEQ ID NO: 278 is the determined cDNA sequence for clone 25442.
SEQ ID NO: 279 is the determined cDNA sequence for clone 25443.
SEQ ID NO: 280 is the determined cDNA sequence for clone 25444.
SEQ ID NO: 281 is the determined cDNA sequence for clone 25445.
SEQ ID NO: 282 is the determined cDNA sequence for clone 25446.
10 SEQ ID NO: 283 is the determined cDNA sequence for clone 25447.
SEQ ID NO: 284 is the determined cDNA sequence for clone 25448.
SEQ ID NO: 285 is the determined cDNA sequence for clone 25844.
SEQ ID NO: 286 is the determined cDNA sequence for clone 25845.
SEQ ID NO: 287 is the determined cDNA sequence for clone 25846.
15 SEQ ID NO: 288 is the determined cDNA sequence for clone 25847.
SEQ ID NO: 289 is the determined cDNA sequence for clone 25848.
SEQ ID NO: 290 is the determined cDNA sequence for clone 25850.
SEQ ID NO: 291 is the determined cDNA sequence for clone 25851.
SEQ ID NO: 292 is the determined cDNA sequence for clone 25852.
20 SEQ ID NO: 293 is the determined cDNA sequence for clone 25853.
SEQ ID NO: 294 is the determined cDNA sequence for clone 25854.
SEQ ID NO: 295 is the determined cDNA sequence for clone 25855.
SEQ ID NO: 296 is the determined cDNA sequence for clone 25856.
SEQ ID NO: 297 is the determined cDNA sequence for clone 25857.
25 SEQ ID NO: 298 is the determined cDNA sequence for clone 25858.
SEQ ID NO: 299 is the determined cDNA sequence for clone 25859.
SEQ ID NO: 300 is the determined cDNA sequence for clone 25860.
SEQ ID NO: 301 is the determined cDNA sequence for clone 25861.
SEQ ID NO: 302 is the determined cDNA sequence for clone 25862.
30 SEQ ID NO: 303 is the determined cDNA sequence for clone 25863.
SEQ ID NO: 304 is the determined cDNA sequence for clone 25864.

SEQ ID NO: 305 is the determined cDNA sequence for clone 25865.
SEQ ID NO: 306 is the determined cDNA sequence for clone 25866.
SEQ ID NO: 307 is the determined cDNA sequence for clone 25867.
SEQ ID NO: 308 is the determined cDNA sequence for clone 25868.
5 SEQ ID NO: 309 is the determined cDNA sequence for clone 25869.
SEQ ID NO: 310 is the determined cDNA sequence for clone 25870.
SEQ ID NO: 311 is the determined cDNA sequence for clone 25871.
SEQ ID NO: 312 is the determined cDNA sequence for clone 25872.
SEQ ID NO: 313 is the determined cDNA sequence for clone 25873.
10 SEQ ID NO: 314 is the determined cDNA sequence for clone 25875.
SEQ ID NO: 315 is the determined cDNA sequence for clone 25876.
SEQ ID NO: 316 is the determined cDNA sequence for clone 25877.
SEQ ID NO: 317 is the determined cDNA sequence for clone 25878.
SEQ ID NO: 318 is the determined cDNA sequence for clone 25879.
15 SEQ ID NO: 319 is the determined cDNA sequence for clone 25880.
SEQ ID NO: 320 is the determined cDNA sequence for clone 25881.
SEQ ID NO: 321 is the determined cDNA sequence for clone 25882.
SEQ ID NO: 322 is the determined cDNA sequence for clone 25883.
SEQ ID NO: 323 is the determined cDNA sequence for clone 25884.
20 SEQ ID NO: 324 is the determined cDNA sequence for clone 25885.
SEQ ID NO: 325 is the determined cDNA sequence for clone 25886.
SEQ ID NO: 326 is the determined cDNA sequence for clone 25887.
SEQ ID NO: 327 is the determined cDNA sequence for clone 25888.
SEQ ID NO: 328 is the determined cDNA sequence for clone 25889.
25 SEQ ID NO: 329 is the determined cDNA sequence for clone 25890.
SEQ ID NO: 330 is the determined cDNA sequence for clone 25892.
SEQ ID NO: 331 is the determined cDNA sequence for clone 25894.
SEQ ID NO: 332 is the determined cDNA sequence for clone 25895.
SEQ ID NO: 333 is the determined cDNA sequence for clone 25896.
30 SEQ ID NO: 334 is the determined cDNA sequence for clone 25897.
SEQ ID NO: 335 is the determined cDNA sequence for clone 25899.

SEQ ID NO: 336 is the determined cDNA sequence for clone 25900.
SEQ ID NO: 337 is the determined cDNA sequence for clone 25901.
SEQ ID NO: 338 is the determined cDNA sequence for clone 25902.
SEQ ID NO: 339 is the determined cDNA sequence for clone 25903.
5 SEQ ID NO: 340 is the determined cDNA sequence for clone 25904.
SEQ ID NO: 341 is the determined cDNA sequence for clone 25906.
SEQ ID NO: 342 is the determined cDNA sequence for clone 25907.
SEQ ID NO: 343 is the determined cDNA sequence for clone 25908.
SEQ ID NO: 344 is the determined cDNA sequence for clone 25909.
10 SEQ ID NO: 345 is the determined cDNA sequence for clone 25910.
SEQ ID NO: 346 is the determined cDNA sequence for clone 25911.
SEQ ID NO: 347 is the determined cDNA sequence for clone 25912.
SEQ ID NO: 348 is the determined cDNA sequence for clone 25913.
SEQ ID NO: 349 is the determined cDNA sequence for clone 25914.
15 SEQ ID NO: 350 is the determined cDNA sequence for clone 25915.
SEQ ID NO: 351 is the determined cDNA sequence for clone 25916.
SEQ ID NO: 352 is the determined cDNA sequence for clone 25917.
SEQ ID NO: 353 is the determined cDNA sequence for clone 25918.
SEQ ID NO: 354 is the determined cDNA sequence for clone 25919.
20 SEQ ID NO: 355 is the determined cDNA sequence for clone 25920.
SEQ ID NO: 356 is the determined cDNA sequence for clone 25921.
SEQ ID NO: 357 is the determined cDNA sequence for clone 25922.
SEQ ID NO: 358 is the determined cDNA sequence for clone 25924.
SEQ ID NO: 359 is the determined cDNA sequence for clone 25925.
25 SEQ ID NO: 360 is the determined cDNA sequence for clone 25926.
SEQ ID NO: 361 is the determined cDNA sequence for clone 25927.
SEQ ID NO: 362 is the determined cDNA sequence for clone 25928.
SEQ ID NO: 363 is the determined cDNA sequence for clone 25929.
SEQ ID NO: 364 is the determined cDNA sequence for clone 25930.
30 SEQ ID NO: 365 is the determined cDNA sequence for clone 25931.
SEQ ID NO: 366 is the determined cDNA sequence for clone 25932.

SEQ ID NO: 367 is the determined cDNA sequence for clone 25933.
SEQ ID NO: 368 is the determined cDNA sequence for clone 25934.
SEQ ID NO: 369 is the determined cDNA sequence for clone 25935.
SEQ ID NO: 370 is the determined cDNA sequence for clone 25936.
5 SEQ ID NO: 371 is the determined cDNA sequence for clone 25939.
SEQ ID NO: 372 is the determined cDNA sequence for clone 32016.
SEQ ID NO: 373 is the determined cDNA sequence for clone 32021.
SEQ ID NO: 374 is the determined cDNA sequence for clone 31993.
SEQ ID NO: 375 is the determined cDNA sequence for clone 31997.
10 SEQ ID NO: 376 is the determined cDNA sequence for clone 31942.
SEQ ID NO: 377 is the determined cDNA sequence for clone 31937.
SEQ ID NO: 378 is the determined cDNA sequence for clone 31952.
SEQ ID NO: 379 is the determined cDNA sequence for clone 31992.
SEQ ID NO: 380 is the determined cDNA sequence for clone 31961.
15 SEQ ID NO: 381 is the determined cDNA sequence for clone 31964.
SEQ ID NO: 382 is the determined cDNA sequence for clone 32005.
SEQ ID NO: 383 is the determined cDNA sequence for clone 31980.
SEQ ID NO: 384 is the determined cDNA sequence for clone 31940.
SEQ ID NO: 385 is the determined cDNA sequence for clone 32004.
20 SEQ ID NO: 386 is the determined cDNA sequence for clone 31956.
SEQ ID NO: 387 is the determined cDNA sequence for clone 31934.
SEQ ID NO: 388 is the determined cDNA sequence for clone 31998.
SEQ ID NO: 389 is the determined cDNA sequence for clone 31973.
SEQ ID NO: 390 is the determined cDNA sequence for clone 31976.
25 SEQ ID NO: 391 is the determined cDNA sequence for clone 31988.
SEQ ID NO: 392 is the determined cDNA sequence for clone 31948.
SEQ ID NO: 393 is the determined cDNA sequence for clone 32013.
SEQ ID NO: 394 is the determined cDNA sequence for clone 31986.
SEQ ID NO: 395 is the determined cDNA sequence for clone 31954.
30 SEQ ID NO: 396 is the determined cDNA sequence for clone 31987.
SEQ ID NO: 397 is the determined cDNA sequence for clone 32029.

SEQ ID NO: 398 is the determined cDNA sequence for clone 32028.
SEQ ID NO: 399 is the determined cDNA sequence for clone 32012.
SEQ ID NO: 400 is the determined cDNA sequence for clone 31959.
SEQ ID NO: 401 is the determined cDNA sequence for clone 32027.
5 SEQ ID NO: 402 is the determined cDNA sequence for clone 31957.
SEQ ID NO: 403 is the determined cDNA sequence for clone 31950.
SEQ ID NO: 404 is the determined cDNA sequence for clone 32011.
SEQ ID NO: 405 is the determined cDNA sequence for clone 32022.
SEQ ID NO: 406 is the determined cDNA sequence for clone 32014.
10 SEQ ID NO: 407 is the determined cDNA sequence for clone 31963.
SEQ ID NO: 408 is the determined cDNA sequence for clone 31989.
SEQ ID NO: 409 is the determined cDNA sequence for clone 32015.
SEQ ID NO: 410 is the determined cDNA sequence for clone 32002.
SEQ ID NO: 411 is the determined cDNA sequence for clone 31939.
15 SEQ ID NO: 412 is the determined cDNA sequence for clone 32003.
SEQ ID NO: 413 is the determined cDNA sequence for clone 31936.
SEQ ID NO: 414 is the determined cDNA sequence for clone 32007.
SEQ ID NO: 415 is the determined cDNA sequence for clone 31965.
SEQ ID NO: 416 is the determined cDNA sequence for clone 31935.
20 SEQ ID NO: 417 is the determined cDNA sequence for clone 32008.
SEQ ID NO: 418 is the determined cDNA sequence for clone 31966.
SEQ ID NO: 419 is the determined cDNA sequence for clone 32020.
SEQ ID NO: 420 is the determined cDNA sequence for clone 31971.
SEQ ID NO: 421 is the determined cDNA sequence for clone 31977.
25 SEQ ID NO: 422 is the determined cDNA sequence for clone 31985.
SEQ ID NO: 423 is the determined cDNA sequence for clone 32023.
SEQ ID NO: 424 is the determined cDNA sequence for clone 31981.
SEQ ID NO: 425 is the determined cDNA sequence for clone 32006.
SEQ ID NO: 426 is the determined cDNA sequence for clone 31991.
30 SEQ ID NO: 427 is the determined cDNA sequence for clone 31995.
SEQ ID NO: 428 is the determined cDNA sequence for clone 32000.

SEQ ID NO: 429 is the determined cDNA sequence for clone 31990.
SEQ ID NO: 430 is the determined cDNA sequence for clone 31946.
SEQ ID NO: 431 is the determined cDNA sequence for clone 31938.
SEQ ID NO: 432 is the determined cDNA sequence for clone 31941.
5 SEQ ID NO: 433 is the determined cDNA sequence for clone 31982.
SEQ ID NO: 434 is the determined cDNA sequence for clone 31996.
SEQ ID NO: 435 is the determined cDNA sequence for clone 32010.
SEQ ID NO: 436 is the determined cDNA sequence for clone 31974.
SEQ ID NO: 437 is the determined cDNA sequence for clone 31983.
10 SEQ ID NO: 438 is the determined cDNA sequence for clone 31999.
SEQ ID NO: 439 is the determined cDNA sequence for clone 31949.
SEQ ID NO: 440 is the determined cDNA sequence for clone 31947.
SEQ ID NO: 441 is the determined cDNA sequence for clone 31994.
SEQ ID NO: 442 is the determined cDNA sequence for clone 31958.
15 SEQ ID NO: 443 is the determined cDNA sequence for clone 31975.
SEQ ID NO: 444 is the determined cDNA sequence for clone 31984.
SEQ ID NO: 445 is the determined cDNA sequence for clone 32024.
SEQ ID NO: 446 is the determined cDNA sequence for clone 31972.
SEQ ID NO: 447 is the determined cDNA sequence for clone 31943.
20 SEQ ID NO: 448 is the determined cDNA sequence for clone 32018.
SEQ ID NO: 449 is the determined cDNA sequence for clone 32026.
SEQ ID NO: 450 is the determined cDNA sequence for clone 32009.
SEQ ID NO: 451 is the determined cDNA sequence for clone 32019.
SEQ ID NO: 452 is the determined cDNA sequence for clone 32025.
25 SEQ ID NO: 453 is the determined cDNA sequence for clone 31967.
SEQ ID NO: 454 is the determined cDNA sequence for clone 31968.
SEQ ID NO: 455 is the determined cDNA sequence for clone 31955.
SEQ ID NO: 456 is the determined cDNA sequence for clone 31951.
SEQ ID NO: 457 is the determined cDNA sequence for clone 31970.
30 SEQ ID NO: 458 is the determined cDNA sequence for clone 31962.
SEQ ID NO: 459 is the determined cDNA sequence for clone 32001.

SEQ ID NO: 460 is the determined cDNA sequence for clone 31953.

SEQ ID NO: 461 is the determined cDNA sequence for clone 31944.

SEQ ID NO: 462 is the determined cDNA sequence for clone 31825.

SEQ ID NO: 463 is the determined cDNA sequence for clone 31828.

5 SEQ ID NO: 464 is the determined cDNA sequence for clone 31830.

SEQ ID NO: 465 is the determined cDNA sequence for clone 31841.

SEQ ID NO: 466 is the determined cDNA sequence for clone 31847.

SEQ ID NO: 467 is the determined cDNA sequence for clone 31850.

SEQ ID NO: 468 is the determined cDNA sequence for clone 31852.

10 SEQ ID NO: 469 is the determined cDNA sequence for clone 31855.

SEQ ID NO: 470 is the determined cDNA sequence for clone 31858.

SEQ ID NO: 471 is the determined cDNA sequence for clone 31861.

SEQ ID NO: 472 is the determined cDNA sequence for clone 31868.

SEQ ID NO: 473 is the determined cDNA sequence for clone 31870.

15 SEQ ID NO: 474 is the determined cDNA sequence for clone 31872.

SEQ ID NO: 475 is the determined cDNA sequence for clone 31873.

SEQ ID NO: 476 is the determined cDNA sequence for clone 31877.

SEQ ID NO: 477 is the determined cDNA sequence for clone 31878.

SEQ ID NO: 478 is the determined cDNA sequence for clone 31885.

20 SEQ ID NO: 479 is the determined cDNA sequence for clone 31888.

SEQ ID NO: 480 is the determined cDNA sequence for clone 31890.

SEQ ID NO: 481 is the determined cDNA sequence for clone 31893.

SEQ ID NO: 482 is the determined cDNA sequence for clone 31898.

SEQ ID NO: 483 is the determined cDNA sequence for clone 31901.

25 SEQ ID NO: 484 is the determined cDNA sequence for clone 31909.

SEQ ID NO: 485 is the determined cDNA sequence for clone 31910.

SEQ ID NO: 486 is the determined cDNA sequence for clone 31914.

SEQ ID NO: 487 is the determined cDNA sequence for contig 1.

SEQ ID NO: 488 is the determined cDNA sequence for contig 2.

30 SEQ ID NO: 489 is the determined cDNA sequence for contig 3.

SEQ ID NO: 490 is the determined cDNA sequence for contig 4.

SEQ ID NO: 491 is the determined cDNA sequence for contig 5.
SEQ ID NO: 492 is the determined cDNA sequence for contig 6.
SEQ ID NO: 493 is the determined cDNA sequence for contig 7.
SEQ ID NO: 494 is the determined cDNA sequence for contig 8.
5 SEQ ID NO: 495 is the determined cDNA sequence for contig 9.
SEQ ID NO: 496 is the determined cDNA sequence for contig 10.
SEQ ID NO: 497 is the determined cDNA sequence for contig 11
SEQ ID NO: 498 is the determined cDNA sequence for contig 12
SEQ ID NO: 499 is the determined cDNA sequence for contig 13.
10 SEQ ID NO: 500 is the determined cDNA sequence for contig 14.
SEQ ID NO: 501 is the determined cDNA sequence for contig 15.
SEQ ID NO: 502 is the determined cDNA sequence for contig 16.
SEQ ID NO: 503 is the determined cDNA sequence for contig 17.
SEQ ID NO: 504 is the determined cDNA sequence for contig 18.
15 SEQ ID NO: 505 is the determined cDNA sequence for contig 19.
SEQ ID NO: 506 is the determined cDNA sequence for contig 20.
SEQ ID NO: 507 is the determined cDNA sequence for contig 21.
SEQ ID NO: 508 is the determined cDNA sequence for contig 22.
SEQ ID NO: 509 is the determined cDNA sequence for contig 23.
20 SEQ ID NO: 510 is the determined cDNA sequence for contig 24.
SEQ ID NO: 511 is the determined cDNA sequence for contig 25.
SEQ ID NO: 512 is the determined cDNA sequence for contig 26.
SEQ ID NO: 513 is the determined cDNA sequence for contig 27.
SEQ ID NO: 514 is the determined cDNA sequence for contig 28.
25 SEQ ID NO: 515 is the determined cDNA sequence for contig 29.
SEQ ID NO: 516 is the determined cDNA sequence for contig 30.
SEQ ID NO: 517 is the determined cDNA sequence for contig 31.
SEQ ID NO: 518 is the determined cDNA sequence for contig 32.
SEQ ID NO: 519 is the determined cDNA sequence for contig 33.
30 SEQ ID NO: 520 is the determined cDNA sequence for contig 34.
SEQ ID NO: 521 is the determined cDNA sequence for contig 35.

SEQ ID NO: 522 is the determined cDNA sequence for contig 36.
SEQ ID NO: 523 is the determined cDNA sequence for contig 37.
SEQ ID NO: 524 is the determined cDNA sequence for contig 38.
SEQ ID NO: 525 is the determined cDNA sequence for contig 39.
5 SEQ ID NO: 526 is the determined cDNA sequence for contig 40.
SEQ ID NO: 527 is the determined cDNA sequence for contig 41.
SEQ ID NO: 528 is the determined cDNA sequence for contig 42.
SEQ ID NO: 529 is the determined cDNA sequence for contig 43.
SEQ ID NO: 530 is the determined cDNA sequence for contig 44.
10 SEQ ID NO: 531 is the determined cDNA sequence for contig 45.
SEQ ID NO: 532 is the determined cDNA sequence for contig 46.
SEQ ID NO: 533 is the determined cDNA sequence for contig 47.
SEQ ID NO: 534 is the determined cDNA sequence for contig 48.
SEQ ID NO: 535 is the determined cDNA sequence for contig 49.
15 SEQ ID NO: 536 is the determined cDNA sequence for contig 50.
SEQ ID NO: 537 is the determined cDNA sequence for contig 51.
SEQ ID NO: 538 is the determined cDNA sequence for contig 52.
SEQ ID NO: 539 is the determined cDNA sequence for contig 53.
SEQ ID NO: 540 is the determined cDNA sequence for contig 54.
20 SEQ ID NO: 541 is the determined cDNA sequence for contig 55.
SEQ ID NO: 542 is the determined cDNA sequence for contig 56.
SEQ ID NO: 543 is the determined cDNA sequence for contig 58.
SEQ ID NO: 544 is the determined cDNA sequence for contig 59.
SEQ ID NO: 545 is the determined cDNA sequence for contig 60.
25 SEQ ID NO: 546 is the determined cDNA sequence for contig 61.
SEQ ID NO: 547 is the determined cDNA sequence for contig 62.
SEQ ID NO: 548 is the determined cDNA sequence for contig 63.
SEQ ID NO: 549 is the determined cDNA sequence for contig 64.
SEQ ID NO: 550 is the determined cDNA sequence for contig 65.
30 SEQ ID NO: 551 is the determined cDNA sequence for contig 66.
SEQ ID NO: 552 is the determined cDNA sequence for contig 67.

SEQ ID NO: 553 is the determined cDNA sequence for contig 68.
SEQ ID NO: 554 is the determined cDNA sequence for contig 69.
SEQ ID NO: 555 is the determined cDNA sequence for contig 70.
SEQ ID NO: 556 is the determined cDNA sequence for contig 71.
5 SEQ ID NO: 557 is the determined cDNA sequence for contig 72.
SEQ ID NO: 558 is the determined cDNA sequence for contig 73.
SEQ ID NO: 559 is the determined cDNA sequence for contig 74.
SEQ ID NO: 560 is the determined cDNA sequence for contig 75.
SEQ ID NO: 561 is the determined cDNA sequence for contig 76.
10 SEQ ID NO: 562 is the determined cDNA sequence for contig 77.
SEQ ID NO: 563 is the determined cDNA sequence for contig 78.
SEQ ID NO: 564 is the determined cDNA sequence for contig 79.
SEQ ID NO: 565 is the determined cDNA sequence for contig 80.
SEQ ID NO: 566 is the determined cDNA sequence for contig 81.
15 SEQ ID NO: 567 is the determined cDNA sequence for contig 82.
SEQ ID NO: 568 is the determined cDNA sequence for contig 83.
SEQ ID NO: 569 is the determined cDNA sequence for clone CS1-101.
SEQ ID NO: 570 is the determined cDNA sequence for clone CS1-102.
SEQ ID NO: 571 is the determined cDNA sequence for clone CS1-104.
20 SEQ ID NO: 572 is the determined cDNA sequence for clone CS1-105.
SEQ ID NO: 573 is the determined 3' cDNA sequence for clone CS1-106.
SEQ ID NO: 574 is the determined 5' cDNA sequence for clone CS1-106.
SEQ ID NO: 575 is the determined cDNA sequence for clone CS1-114.
SEQ ID NO: 576 is the determined cDNA sequence for clone CS1-118.
25 SEQ ID NO: 577 is the determined cDNA sequence for clone CS1-120.
SEQ ID NO: 578 is the determined cDNA sequence for clone CS1-123.
SEQ ID NO: 579 is the determined 3' cDNA sequence for clone CS1-124.
SEQ ID NO: 580 is the determined 5' cDNA sequence for clone CS1-124.
SEQ ID NO: 581 is the determined cDNA sequence for clone CS1-128.
30 SEQ ID NO: 582 is the determined cDNA sequence for clone CS1-132.
SEQ ID NO: 583 is the determined cDNA sequence for clone CS1-136.

SEQ ID NO: 584 is the determined cDNA sequence for clone CS1-137.
SEQ ID NO: 585 is the determined cDNA sequence for clone CS1-139.
SEQ ID NO: 586 is the determined cDNA sequence for clone CS1-141.
SEQ ID NO: 587 is the determined cDNA sequence for clone CS1-152.
5 SEQ ID NO: 588 is the determined cDNA sequence for clone CS1-154.
SEQ ID NO: 589 is the determined cDNA sequence for clone CS1-156.
SEQ ID NO: 590 is the determined cDNA sequence for clone CS1-158.
SEQ ID NO: 591 is the determined cDNA sequence for clone CS1-160.
SEQ ID NO: 592 is the determined cDNA sequence for clone CS1-168.
10 SEQ ID NO: 593 is the determined cDNA sequence for clone CS1-169.
SEQ ID NO: 594 is the determined cDNA sequence for clone CS1-171.
SEQ ID NO: 595 is the determined cDNA sequence for clone CS1-176.
SEQ ID NO: 596 is the determined cDNA sequence for clone CS1-178.
SEQ ID NO: 597 is the determined cDNA sequence for clone CS1-180.
15 SEQ ID NO: 598 is the determined cDNA sequence for clone CS1-183.
SEQ ID NO: 599 is the determined cDNA sequence for clone CS1-184.
SEQ ID NO: 600 is the determined cDNA sequence for clone CS1-187.
SEQ ID NO: 601 is the determined cDNA sequence for clone CS1-190.
SEQ ID NO: 602 is the determined cDNA sequence for clone CS1-194.
20 SEQ ID NO: 603 is the determined cDNA sequence for clone CS1-195.
SEQ ID NO: 604 is the determined cDNA sequence for clone CS1-196.
SEQ ID NO: 605 is the determined cDNA sequence for clone CS1-197.
SEQ ID NO: 606 is the determined cDNA sequence for clone CS1-200.
SEQ ID NO: 607 is the determined cDNA sequence for clone CS1-206.
25 SEQ ID NO: 608 is the determined cDNA sequence for clone CS1-207.
SEQ ID NO: 609 is the determined cDNA sequence for clone CS1-234.
SEQ ID NO: 610 is the determined cDNA sequence for clone CS1-238.
SEQ ID NO: 611 is the determined cDNA sequence for clone CS1-239.
SEQ ID NO: 612 is the determined cDNA sequence for clone CS1-243.
30 SEQ ID NO: 613 is the determined cDNA sequence for clone CS1-246.
SEQ ID NO: 614 is the determined cDNA sequence for clone CS1-249.

SEQ ID NO: 615 is the determined cDNA sequence for clone CS1-250.
SEQ ID NO: 616 is the determined cDNA sequence for clone CS1-252.
SEQ ID NO: 617 is the determined cDNA sequence for clone CT502.
SEQ ID NO: 618 is the determined cDNA sequence for clone CT507.
5 SEQ ID NO: 619 is the determined cDNA sequence for clone CT521.
SEQ ID NO: 620 is the determined cDNA sequence for clone CT544.
SEQ ID NO: 621 is the determined cDNA sequence for clone CT577.
SEQ ID NO: 622 is the determined cDNA sequence for clone CT580.
SEQ ID NO: 623 is the determined cDNA sequence for clone CT594.
10 SEQ ID NO: 624 is the determined cDNA sequence for clone CT606.
SEQ ID NO: 625 is the determined cDNA sequence for clone CT607.
SEQ ID NO: 626 is the determined cDNA sequence for clone CT599.
SEQ ID NO: 627 is the determined cDNA sequence for clone CT632.
SEQ ID NO: 628 is the determined cDNA sequence for clone 35691.
15 SEQ ID NO: 629 is the determined cDNA sequence for clone 35707.
SEQ ID NO: 630 is the determined cDNA sequence for clone CSE-2.
SEQ ID NO: 631 is the amino acid sequence for clone CSE-2.
SEQ ID NO: 632 is the determined cDNA sequence for clone CT2-1.
SEQ ID NO: 633 is the determined cDNA sequence for clone CT2-6.
20 SEQ ID NO: 634 is the determined cDNA sequence for clone CT2-8.
SEQ ID NO: 635 is the determined cDNA sequence for clone CT2-9.
SEQ ID NO: 636 is the determined cDNA sequence for clone CT2-12.
SEQ ID NO: 637 is the determined cDNA sequence for clone CT2-15.
SEQ ID NO: 638 is the determined cDNA sequence for clone CT2-16.
25 SEQ ID NO: 639 is the determined cDNA sequence for clone CT2-17.
SEQ ID NO: 640 is the determined cDNA sequence for clone CT2-19.
SEQ ID NO: 641 is the determined cDNA sequence for clone CT2-23.
SEQ ID NO: 642 is the determined cDNA sequence for clone CT2-25.
SEQ ID NO: 643 is the determined cDNA sequence for clone CT2-27.
30 SEQ ID NO: 644 is the determined cDNA sequence for clone CT2-35.
SEQ ID NO: 645 is the determined cDNA sequence for clone CT2-39.

SEQ ID NO: 646 is the determined cDNA sequence for clone CT2-41.
SEQ ID NO: 647 is the determined cDNA sequence for clone CT2-43.
SEQ ID NO: 648 is the determined cDNA sequence for clone CT2-44.
SEQ ID NO: 649 is the determined cDNA sequence for clone CT2-53.
5 SEQ ID NO: 650 is the determined cDNA sequence for clone CT2-54.
SEQ ID NO: 651 is the determined cDNA sequence for clone CT2-55.
SEQ ID NO: 652 is the determined cDNA sequence for clone CT2-57.
SEQ ID NO: 653 is the determined cDNA sequence for clone CT2-60.
SEQ ID NO: 654 is the determined cDNA sequence for clone CT2-64.
10 SEQ ID NO: 655 is the determined cDNA sequence for clone CT2-67.
SEQ ID NO: 656 is the determined cDNA sequence for clone CT2-68.
SEQ ID NO: 657 is the determined cDNA sequence for clone CT2-75.
SEQ ID NO: 658 is the determined cDNA sequence for clone CT2-79.
SEQ ID NO: 659 is the determined cDNA sequence for clone CT2-109.
15 SEQ ID NO: 660 is the determined cDNA sequence for clone CT2-112.
SEQ ID NO: 661 is the determined cDNA sequence for clone CT2-127.
SEQ ID NO: 662 is the determined cDNA sequence for clone CT2-129.
SEQ ID NO: 663 is the determined cDNA sequence for clone CT2-156.
SEQ ID NO: 664 is the determined cDNA sequence for clone CT2-162.
20 SEQ ID NO: 665 is the determined cDNA sequence for clone CT2-167.
SEQ ID NO: 666 is the determined cDNA sequence for clone CT2-169.
SEQ ID NO: 667 is the determined cDNA sequence for clone CT2-172.
SEQ ID NO: 668 is the determined cDNA sequence for clone CT2-173.
SEQ ID NO: 669 is the determined cDNA sequence for clone CT2-174.
25 SEQ ID NO: 670 is the determined cDNA sequence for clone CT2-177.
SEQ ID NO: 671 is the determined cDNA sequence for clone CT2-181.
SEQ ID NO: 672 is the determined cDNA sequence for clone CT2-191.
SEQ ID NO: 673 is the determined cDNA sequence for clone CT2-192.
SEQ ID NO: 674 is the determined cDNA sequence for clone CT2-207.
30 SEQ ID NO: 675 is the determined cDNA sequence for clone CT2-222.
SEQ ID NO: 676 is the determined cDNA sequence for clone CT2-223.

SEQ ID NO: 677 is the determined cDNA sequence for clone CT2-233.

SEQ ID NO: 678 is the determined cDNA sequence for clone CT2-244.

SEQ ID NO: 679 is the determined cDNA sequence for clone CT2-257.

SEQ ID NO: 680 is the determined cDNA sequence for clone CT2-279.

5 SEQ ID NO: 681 is the determined cDNA sequence for clone CT2-288.

SEQ ID NO: 682 is the determined cDNA sequence for clone CT2-291.

SEQ ID NO:683 is the full-length cDNA sequence for human PAC (SEQ ID
NOs: 18 and 19).

SEQ ID NO:684 is the full-length cDNA sequence for murine homologue of
10 human PAC (SEQ ID NO: 683).

SEQ ID NO:685 is the predicted amino acid sequence for the clone of SEQ ID
NO:683.

SEQ ID NO:686 is a longer determined cDNA sequence for clone CoSub-19
(SEQ ID NO:138).

15 SEQ ID NO:687 is the predicted amino acid sequence for the clone of SEQ ID
NO:686.

SEQ ID NO:688 is the nucleotide sequence of the M13 forward primer.

SEQ ID NO:689 is the nucleotide sequence of the M13 reverse primer.

SEQ ID NO:690 is a longer determined cDNA sequence for C799P (SEQ ID
20 NO:40), showing homology to homo sapiens NADH/NADPH thyroid oxidase p138-
tox mRNA.

SEQ ID NO:691 is a longer determined cDNA sequence for C794P (SEQ ID
NO:41).

SEQ ID NO:692 is the predicted amino acid sequence for the clone of SEQ ID
25 NO:690.

SEQ ID NO:693 is the predicted amino acid sequence for the clone of
SEQ ID NO:691.

SEQ ID NO: 694 is the determined cDNA sequence for clone
R0093:A03.

30 SEQ ID NO: 695 is the determined cDNA sequence for clone
R0093:A10.

SEQ ID NO: 696 is the determined cDNA sequence for clone
R0093:A11.

SEQ ID NO: 697 is the determined cDNA sequence for clone
R0093:A12.

5 SEQ ID NO: 698 is the determined cDNA sequence for clone
R0093:B03.

SEQ ID NO: 699 is the determined cDNA sequence for clone
R0093:B04.

10 SEQ ID NO: 700 is the determined cDNA sequence for clone
R0093:B09.

SEQ ID NO: 701 is the determined cDNA sequence for clone
R0093:B10.

SEQ ID NO: 702 is the determined cDNA sequence for clone
R0093:B11.

15 SEQ ID NO: 703 is the determined cDNA sequence for clone
R0093:B12.

SEQ ID NO: 704 is the determined cDNA sequence for clone
R0093:C01.

20 SEQ ID NO: 705 is the determined cDNA sequence for clone
R0093:C03.

SEQ ID NO: 706 is the determined cDNA sequence for clone
R0093:C04.

SEQ ID NO: 707 is the determined cDNA sequence for clone
R0093:C06.

25 SEQ ID NO: 708 is the determined cDNA sequence for clone
R0093:C08.

SEQ ID NO: 709 is the determined cDNA sequence for clone
R0093:C09.

30 SEQ ID NO: 710 is the determined cDNA sequence for clone
R0093:C10.

SEQ ID NO: 711 is the determined cDNA sequence for clone

R0093:C11.

SEQ ID NO: 712 is the determined cDNA sequence for clone

R0093:C12.

SEQ ID NO: 713 is the determined cDNA sequence for clone

5 R0093:D01.

SEQ ID NO: 714 is the determined cDNA sequence for clone

R0093:D02.

SEQ ID NO: 715 is the determined cDNA sequence for clone

R0093:D03.

10 SEQ ID NO: 716 is the determined cDNA sequence for clone

R0093:D04.

SEQ ID NO: 717 is the determined cDNA sequence for clone

R0093:D05.

SEQ ID NO: 718 is the determined cDNA sequence for clone

15 R0093:D06.

SEQ ID NO: 719 is the determined cDNA sequence for clone

R0093:D07.

SEQ ID NO: 720 is the determined cDNA sequence for clone

R0093:D08.

20 SEQ ID NO: 721 is the determined cDNA sequence for clone

R0093:D10.

SEQ ID NO: 722 is the determined cDNA sequence for clone

R0093:D11.

SEQ ID NO: 723 is the determined cDNA sequence for clone

25 R0093:E02.

SEQ ID NO: 724 is the determined cDNA sequence for clone

R0093:E03.

SEQ ID NO: 725 is the determined cDNA sequence for clone

R0093:E04.

30 SEQ ID NO: 726 is the determined cDNA sequence for clone

R0093:E06.

SEQ ID NO: 727 is the determined cDNA sequence for clone
R0093:E07.

SEQ ID NO: 728 is the determined cDNA sequence for clone
R0093:E08.

5 SEQ ID NO: 729 is the determined cDNA sequence for clone
R0093:E09.

SEQ ID NO: 730 is the determined cDNA sequence for clone
R0093:E10.

10 SEQ ID NO: 731 is the determined cDNA sequence for clone
R0093:E11.

SEQ ID NO: 732 is the determined cDNA sequence for clone
R0093:F02.

SEQ ID NO: 733 is the determined cDNA sequence for clone
R0093:F03.

15 SEQ ID NO: 734 is the determined cDNA sequence for clone
R0093:F04.

SEQ ID NO: 735 is the determined cDNA sequence for clone
R0093:F05.

20 SEQ ID NO: 736 is the determined cDNA sequence for clone
R0093:F06.

SEQ ID NO: 737 is the determined cDNA sequence for clone
R0093:F08.

SEQ ID NO: 738 is the determined cDNA sequence for clone
R0093:F09.

25 SEQ ID NO: 739 is the determined cDNA sequence for clone
R0093:F10.

SEQ ID NO: 740 is the determined cDNA sequence for clone
R0093:F12.

30 SEQ ID NO: 741 is the determined cDNA sequence for clone
R0093:G01.

SEQ ID NO: 742 is the determined cDNA sequence for clone

R0093:G03.

SEQ ID NO: 743 is the determined cDNA sequence for clone

R0093:G04.

SEQ ID NO: 744 is the determined cDNA sequence for clone

5 R0093:G06.

SEQ ID NO: 745 is the determined cDNA sequence for clone

R0093:G07.

SEQ ID NO: 746 is the determined cDNA sequence for clone

R0093:G08.

10 SEQ ID NO: 747 is the determined cDNA sequence for clone

R0093:G09.

SEQ ID NO: 748 is the determined cDNA sequence for clone

R0093:G10.

SEQ ID NO: 749 is the determined cDNA sequence for clone

15 R0093:G11.

SEQ ID NO: 750 is the determined cDNA sequence for clone

R0093:G12.

SEQ ID NO: 751 is the determined cDNA sequence for clone

R0093:H02.

20 SEQ ID NO: 752 is the determined cDNA sequence for clone

R0093:H03.

SEQ ID NO: 753 is the determined cDNA sequence for clone

R0093:H04.

SEQ ID NO: 754 is the determined cDNA sequence for clone

25 R0093:H05.

SEQ ID NO: 755 is the determined cDNA sequence for clone

R0093:H07.

SEQ ID NO: 756 is the determined cDNA sequence for clone

R0093:H08.

30 SEQ ID NO: 757 is the determined cDNA sequence for clone

R0093:H09.

SEQ ID NO: 758 is the determined cDNA sequence for clone
R0093:H10.

SEQ ID NO: 759 is the determined cDNA sequence for clone
R0093:H11.

5 SEQ ID NO: 760 is the determined cDNA sequence for clone
R0094:A03.

SEQ ID NO: 761 is the determined cDNA sequence for clone
R0094:A05.

10 SEQ ID NO: 762 is the determined cDNA sequence for clone
R0094:A06.

SEQ ID NO: 763 is the determined cDNA sequence for clone
R0094:A07.

SEQ ID NO: 764 is the determined cDNA sequence for clone
R0094:A09.

15 SEQ ID NO: 765 is the determined cDNA sequence for clone
R0094:A10.

SEQ ID NO: 766 is the determined cDNA sequence for clone
R0094:A12.

20 SEQ ID NO: 767 is the determined cDNA sequence for clone
R0094:B03.

SEQ ID NO: 768 is the determined cDNA sequence for clone
R0094:B06.

SEQ ID NO: 769 is the determined cDNA sequence for clone
R0094:B08.

25 SEQ ID NO: 770 is the determined cDNA sequence for clone
R0094:B11.

SEQ ID NO: 771 is the determined cDNA sequence for clone
R0094:B12.

30 SEQ ID NO: 772 is the determined cDNA sequence for clone
R0094:C01.

SEQ ID NO: 773 is the determined cDNA sequence for clone

R0094:C02.

SEQ ID NO: 774 is the determined cDNA sequence for clone

R0094:C03.

SEQ ID NO: 775 is the determined cDNA sequence for clone

5 R0094:C05.

SEQ ID NO: 776 is the determined cDNA sequence for clone

R0094:C06.

SEQ ID NO: 777 is the determined cDNA sequence for clone

R0094:C08.

10 SEQ ID NO: 778 is the determined cDNA sequence for clone

R0094:C09.

SEQ ID NO: 779 is the determined cDNA sequence for clone

R0094:C10.

SEQ ID NO: 780 is the determined cDNA sequence for clone

15 R0094:C11.

SEQ ID NO: 781 is the determined cDNA sequence for clone

R0094:C12.

SEQ ID NO: 782 is the determined cDNA sequence for clone

R0094:D01.

20 SEQ ID NO: 783 is the determined cDNA sequence for clone

R0094:D02.

SEQ ID NO: 784 is the determined cDNA sequence for clone

R0094:D03.

SEQ ID NO: 785 is the determined cDNA sequence for clone

25 R0094:D04.

SEQ ID NO: 786 is the determined cDNA sequence for clone

R0094:D05.

SEQ ID NO: 787 is the determined cDNA sequence for clone

R0094:D07.

30 SEQ ID NO: 788 is the determined cDNA sequence for clone

R0094:D08.

SEQ ID NO: 789 is the determined cDNA sequence for clone
R0094:D09.

SEQ ID NO: 790 is the determined cDNA sequence for clone
R0094:D10.

5 SEQ ID NO: 791 is the determined cDNA sequence for clone
R0094:D12.

SEQ ID NO: 792 is the determined cDNA sequence for clone
R0094:E01.

10 SEQ ID NO: 793 is the determined cDNA sequence for clone
R0094:E02.

SEQ ID NO: 794 is the determined cDNA sequence for clone
R0094:E03.

SEQ ID NO: 795 is the determined cDNA sequence for clone
R0094:E05.

15 SEQ ID NO: 796 is the determined cDNA sequence for clone
R0094:E06.

SEQ ID NO: 797 is the determined cDNA sequence for clone
R0094:E07.

20 SEQ ID NO: 798 is the determined cDNA sequence for clone
R0094:E08.

SEQ ID NO: 799 is the determined cDNA sequence for clone
R0094:E09.

SEQ ID NO: 800 is the determined cDNA sequence for clone
R0094:E10.

25 SEQ ID NO: 801 is the determined cDNA sequence for clone
R0094:E11.

SEQ ID NO: 802 is the determined cDNA sequence for clone
R0094:E12.

30 SEQ ID NO: 803 is the determined cDNA sequence for clone
R0094:F01.

SEQ ID NO: 804 is the determined cDNA sequence for clone

R0094:F03.

SEQ ID NO: 805 is the determined cDNA sequence for clone

R0094:F05.

SEQ ID NO: 806 is the determined cDNA sequence for clone

5 R0094:F06.

SEQ ID NO: 807 is the determined cDNA sequence for clone

R0094:F07.

SEQ ID NO: 808 is the determined cDNA sequence for clone

R0094:F08.

10 SEQ ID NO: 809 is the determined cDNA sequence for clone

R0094:F09.

SEQ ID NO: 810 is the determined cDNA sequence for clone

R0094:F10.

SEQ ID NO: 811 is the determined cDNA sequence for clone

15 R0094:F11.

SEQ ID NO: 812 is the determined cDNA sequence for clone

R0094:F12.

SEQ ID NO: 813 is the determined cDNA sequence for clone

R0094:G02.

20 SEQ ID NO: 814 is the determined cDNA sequence for clone

R0094:G03.

SEQ ID NO: 815 is the determined cDNA sequence for clone

R0094:G04.

SEQ ID NO: 816 is the determined cDNA sequence for clone

25 R0094:G06.

SEQ ID NO: 817 is the determined cDNA sequence for clone

R0094:G07.

SEQ ID NO: 818 is the determined cDNA sequence for clone

R0094:G08.

30 SEQ ID NO: 819 is the determined cDNA sequence for clone

R0094:G10.

SEQ ID NO: 820 is the determined cDNA sequence for clone
R0094:G11.

SEQ ID NO: 821 is the determined cDNA sequence for clone
R0094:G12.

5 SEQ ID NO: 822 is the determined cDNA sequence for clone
R0094:H01.

SEQ ID NO: 823 is the determined cDNA sequence for clone
R0094:H03.

10 SEQ ID NO: 824 is the determined cDNA sequence for clone
R0094:H04.

SEQ ID NO: 825 is the determined cDNA sequence for clone
R0094:H05.

SEQ ID NO: 826 is the determined cDNA sequence for clone
R0094:H06.

15 SEQ ID NO: 827 is the determined cDNA sequence for clone
R0094:H08.

SEQ ID NO: 828 is the determined cDNA sequence for clone
R0094:H09.

20 SEQ ID NO: 829 is the determined cDNA sequence for clone
R0094:H10.

SEQ ID NO: 830 is the determined cDNA sequence for clone
R0094:H11.

SEQ ID NO: 831 is the determined cDNA sequence for clone
R0095:A03.

25 SEQ ID NO: 832 is the determined cDNA sequence for clone
R0095:A06.

SEQ ID NO: 833 is the determined cDNA sequence for clone
R0095:A07.

30 SEQ ID NO: 834 is the determined cDNA sequence for clone
R0095:B01.

SEQ ID NO: 835 is the determined cDNA sequence for clone

R0095:B02.

SEQ ID NO: 836 is the determined cDNA sequence for clone

R0095:B03.

SEQ ID NO: 837 is the determined cDNA sequence for clone

5 R0095:B04.

SEQ ID NO: 838 is the determined cDNA sequence for clone

R0095:B05.

SEQ ID NO: 839 is the determined cDNA sequence for clone

R0095:B06.

10 SEQ ID NO: 840 is the determined cDNA sequence for clone

R0095:B10.

SEQ ID NO: 841 is the determined cDNA sequence for clone

R0095:B11.

SEQ ID NO: 842 is the determined cDNA sequence for clone

15 R0095:B12.

SEQ ID NO: 843 is the determined cDNA sequence for clone

R0095:C01.

SEQ ID NO: 844 is the determined cDNA sequence for clone

R0095:C03.

20 SEQ ID NO: 845 is the determined cDNA sequence for clone

R0095:C04.

SEQ ID NO: 846 is the determined cDNA sequence for clone

R0095:C05.

SEQ ID NO: 847 is the determined cDNA sequence for clone

25 R0095:C06.

SEQ ID NO: 848 is the determined cDNA sequence for clone

R0095:C07.

SEQ ID NO: 849 is the determined cDNA sequence for clone

R0095:C08.

30 SEQ ID NO: 850 is the determined cDNA sequence for clone

R0095:C10.

SEQ ID NO: 851 is the determined cDNA sequence for clone
R0095:C12.

SEQ ID NO: 852 is the determined cDNA sequence for clone
R0095:D01.

5 SEQ ID NO: 853 is the determined cDNA sequence for clone
R0095:D03.

SEQ ID NO: 854 is the determined cDNA sequence for clone
R0095:D04.

10 SEQ ID NO: 855 is the determined cDNA sequence for clone
R0095:D06.

SEQ ID NO: 856 is the determined cDNA sequence for clone
R0095:D07.

SEQ ID NO: 857 is the determined cDNA sequence for clone
R0095:D08.

15 SEQ ID NO: 858 is the determined cDNA sequence for clone
R0095:D09.

SEQ ID NO: 859 is the determined cDNA sequence for clone
R0095:D11.

20 SEQ ID NO: 860 is the determined cDNA sequence for clone
R0095:D12.

SEQ ID NO: 861 is the determined cDNA sequence for clone
R0095:E01.

SEQ ID NO: 862 is the determined cDNA sequence for clone
R0095:E02.

25 SEQ ID NO: 863 is the determined cDNA sequence for clone
R0095:E04.

SEQ ID NO: 864 is the determined cDNA sequence for clone
R0095:E05.

30 SEQ ID NO: 865 is the determined cDNA sequence for clone
R0095:E06.

SEQ ID NO: 866 is the determined cDNA sequence for clone

R0095:E07.

SEQ ID NO: 867 is the determined cDNA sequence for clone

R0095:E08.

SEQ ID NO: 868 is the determined cDNA sequence for clone

5 R0095:E11.

SEQ ID NO: 869 is the determined cDNA sequence for clone

R0095:E12.

SEQ ID NO: 870 is the determined cDNA sequence for clone

R0095:F01.

10 SEQ ID NO: 871 is the determined cDNA sequence for clone

R0095:F03.

SEQ ID NO: 872 is the determined cDNA sequence for clone

R0095:F06.

SEQ ID NO: 873 is the determined cDNA sequence for clone

15 R0095:F10.

SEQ ID NO: 874 is the determined cDNA sequence for clone

R0095:F11.

SEQ ID NO: 875 is the determined cDNA sequence for clone

R0095:G02.

20 SEQ ID NO: 876 is the determined cDNA sequence for clone

R0095:G03.

SEQ ID NO: 877 is the determined cDNA sequence for clone

R0095:G04.

SEQ ID NO: 878 is the determined cDNA sequence for clone

25 R0095:G08.

SEQ ID NO: 879 is the determined cDNA sequence for clone

R0095:G09.

SEQ ID NO: 880 is the determined cDNA sequence for clone

R0095:G10.

30 SEQ ID NO: 881 is the determined cDNA sequence for clone

R0095:H01.

SEQ ID NO: 882 is the determined cDNA sequence for clone
R0095:H02.

SEQ ID NO: 883 is the determined cDNA sequence for clone
R0095:H04.

5 SEQ ID NO: 884 is the determined cDNA sequence for clone
R0095:H06.

SEQ ID NO: 885 is the determined cDNA sequence for clone
R0095:H07.

10 SEQ ID NO: 886 is the determined cDNA sequence for clone
R0095:H09.

SEQ ID NO: 887 is the determined cDNA sequence for clone
R0096:A02.

SEQ ID NO: 888 is the determined cDNA sequence for clone
R0096:A08.

15 SEQ ID NO: 889 is the determined cDNA sequence for clone
R0096:A09.

SEQ ID NO: 890 is the determined cDNA sequence for clone
R0096:A10.

20 SEQ ID NO: 891 is the determined cDNA sequence for clone
R0096:A11.

SEQ ID NO: 892 is the determined cDNA sequence for clone
R0096:A12.

SEQ ID NO: 893 is the determined cDNA sequence for clone
R0096:B02.

25 SEQ ID NO: 894 is the determined cDNA sequence for clone
R0096:B03.

SEQ ID NO: 895 is the determined cDNA sequence for clone
R0096:B04.

30 SEQ ID NO: 896 is the determined cDNA sequence for clone
R0096:B05.

SEQ ID NO: 897 is the determined cDNA sequence for clone

R0096:B06.

SEQ ID NO: 898 is the determined cDNA sequence for clone

R0096:B07.

SEQ ID NO: 899 is the determined cDNA sequence for clone

5 R0096:B08.

SEQ ID NO: 900 is the determined cDNA sequence for clone

R0096:B09.

SEQ ID NO: 901 is the determined cDNA sequence for clone

R0096:B10.

10 SEQ ID NO: 902 is the determined cDNA sequence for clone

R0096:B11.

SEQ ID NO: 903 is the determined cDNA sequence for clone

R0096:B12.

SEQ ID NO: 904 is the determined cDNA sequence for clone

15 R0096:C01.

SEQ ID NO: 905 is the determined cDNA sequence for clone

R0096:C03.

SEQ ID NO: 906 is the determined cDNA sequence for clone

R0096:C04.

20 SEQ ID NO: 907 is the determined cDNA sequence for clone

R0096:C05.

SEQ ID NO: 908 is the determined cDNA sequence for clone

R0096:C06.

SEQ ID NO: 909 is the determined cDNA sequence for clone

25 R0096:C07.

SEQ ID NO: 910 is the determined cDNA sequence for clone

R0096:C08.

SEQ ID NO: 911 is the determined cDNA sequence for clone

R0096:C09.

30 SEQ ID NO: 912 is the determined cDNA sequence for clone

R0096:C10.

SEQ ID NO: 913 is the determined cDNA sequence for clone
R0096:C11.

SEQ ID NO: 914 is the determined cDNA sequence for clone
R0096:C12.

5 SEQ ID NO: 915 is the determined cDNA sequence for clone
R0096:D01.

SEQ ID NO: 916 is the determined cDNA sequence for clone
R0096:D02.

10 SEQ ID NO: 917 is the determined cDNA sequence for clone
R0096:D03.

SEQ ID NO: 918 is the determined cDNA sequence for clone
R0096:D04.

SEQ ID NO: 919 is the determined cDNA sequence for clone
R0096:D05.

15 SEQ ID NO: 920 is the determined cDNA sequence for clone
R0096:D08.

SEQ ID NO: 921 is the determined cDNA sequence for clone
R0096:D09.

20 SEQ ID NO: 922 is the determined cDNA sequence for clone
R0096:D10.

SEQ ID NO: 923 is the determined cDNA sequence for clone
R0096:D12.

SEQ ID NO: 924 is the determined cDNA sequence for clone
R0096:E01.

25 SEQ ID NO: 925 is the determined cDNA sequence for clone
R0096:E02.

SEQ ID NO: 926 is the determined cDNA sequence for clone
R0096:E03.

30 SEQ ID NO: 927 is the determined cDNA sequence for clone
R0096:E04.

SEQ ID NO: 928 is the determined cDNA sequence for clone

R0096:E05.

SEQ ID NO: 929 is the determined cDNA sequence for clone

R0096:E06.

SEQ ID NO: 930 is the determined cDNA sequence for clone

5 R0096:E08.

SEQ ID NO: 931 is the determined cDNA sequence for clone

R0096:E09.

SEQ ID NO: 932 is the determined cDNA sequence for clone

R0096:E10.

10 SEQ ID NO: 933 is the determined cDNA sequence for clone

R0096:E11.

SEQ ID NO: 934 is the determined cDNA sequence for clone

R0096:E12.

SEQ ID NO: 935 is the determined cDNA sequence for clone

15 R0096:F01.

SEQ ID NO: 936 is the determined cDNA sequence for clone

R0096:F02.

SEQ ID NO: 937 is the determined cDNA sequence for clone

R0096:F03.

20 SEQ ID NO: 938 is the determined cDNA sequence for clone

R0096:F04.

SEQ ID NO: 939 is the determined cDNA sequence for clone

R0096:F05.

SEQ ID NO: 940 is the determined cDNA sequence for clone

25 R0096:F07.

SEQ ID NO: 941 is the determined cDNA sequence for clone

R0096:F10.

SEQ ID NO: 942 is the determined cDNA sequence for clone

R0096:F11.

30 SEQ ID NO: 943 is the determined cDNA sequence for clone

R0096:G01.

SEQ ID NO: 944 is the determined cDNA sequence for clone
R0096:G03.

SEQ ID NO: 945 is the determined cDNA sequence for clone
R0096:G04.

5 SEQ ID NO: 946 is the determined cDNA sequence for clone
R0096:G05.

SEQ ID NO: 947 is the determined cDNA sequence for clone
R0096:G06.

10 SEQ ID NO: 948 is the determined cDNA sequence for clone
R0096:G07.

SEQ ID NO: 949 is the determined cDNA sequence for clone
R0096:G09.

SEQ ID NO: 950 is the determined cDNA sequence for clone
R0096:G10.

15 SEQ ID NO: 951 is the determined cDNA sequence for clone
R0096:G12.

SEQ ID NO: 952 is the determined cDNA sequence for clone
R0096:H01.

20 SEQ ID NO: 953 is the determined cDNA sequence for clone
R0096:H02.

SEQ ID NO: 954 is the determined cDNA sequence for clone
R0096:H03.

SEQ ID NO: 955 is the determined cDNA sequence for clone
R0096:H07.

25 SEQ ID NO: 956 is the determined cDNA sequence for clone
R0096:H08.

SEQ ID NO: 957 is the determined cDNA sequence for clone.
R0097:A05.

30 SEQ ID NO: 958 is the determined cDNA sequence for clone
R0097:A06.

SEQ ID NO: 959 is the determined cDNA sequence for clone

R0097:A10.

SEQ ID NO: 960 is the determined cDNA sequence for clone

R0097:A11.

SEQ ID NO: 961 is the determined cDNA sequence for clone

5 R0097:B01.

SEQ ID NO: 962 is the determined cDNA sequence for clone

R0097:B03.

SEQ ID NO: 963 is the determined cDNA sequence for clone

R0097:B04.

10 SEQ ID NO: 964 is the determined cDNA sequence for clone

R0097:B05.

SEQ ID NO: 965 is the determined cDNA sequence for clone

R0097:B06.

SEQ ID NO: 966 is the determined cDNA sequence for clone

15 R0097:B07.

SEQ ID NO: 967 is the determined cDNA sequence for clone

R0097:B11.

SEQ ID NO: 968 is the determined cDNA sequence for clone

R0097:C01.

20 SEQ ID NO: 969 is the determined cDNA sequence for clone

R0097:C02.

SEQ ID NO: 970 is the determined cDNA sequence for clone

R0097:C03.

SEQ ID NO: 971 is the determined cDNA sequence for clone

25 R0097:C04.

SEQ ID NO: 972 is the determined cDNA sequence for clone

R0097:C05.

SEQ ID NO: 973 is the determined cDNA sequence for clone

R0097:C07.

30 SEQ ID NO: 974 is the determined cDNA sequence for clone

R0097:C08.

SEQ ID NO: 975 is the determined cDNA sequence for clone
R0097:C09.

SEQ ID NO: 976 is the determined cDNA sequence for clone
R0097:C10.

5 SEQ ID NO: 977 is the determined cDNA sequence for clone
R0097:D01.

SEQ ID NO: 978 is the determined cDNA sequence for clone
R0097:D08.

10 SEQ ID NO: 979 is the determined cDNA sequence for clone
R0097:E02.

SEQ ID NO: 980 is the determined cDNA sequence for clone
R0097:E09.

SEQ ID NO: 981 is the determined cDNA sequence for clone
R0097:E11.

15 SEQ ID NO: 982 is the determined cDNA sequence for clone
R0097:F01.

SEQ ID NO: 983 is the determined cDNA sequence for clone
R0097:F11.

20 SEQ ID NO: 984 is the determined cDNA sequence for clone
R0097:G01.

SEQ ID NO: 985 is the determined cDNA sequence for clone
R0097:G11.

SEQ ID NO: 986 is the determined cDNA sequence for clone
R0097:G12.

25 SEQ ID NO: 987 is the determined cDNA sequence for clone
R0097:H01.

SEQ ID NO: 988 is the determined cDNA sequence for clone
R0097:H02.

30 SEQ ID NO: 989 is the determined cDNA sequence for clone
R0097:H04.

SEQ ID NO: 990 is the determined cDNA sequence for clone

R0097:H06.

SEQ ID NO: 991 is the determined cDNA sequence for clone

R0097:H07.

SEQ ID NO: 992 is the determined cDNA sequence for clone

5 R0097:H09.

SEQ ID NO: 993 is the determined cDNA sequence for clone

R0097:H11.

SEQ ID NO: 994 is the determined cDNA sequence for clone

R0098:A03.

10 SEQ ID NO: 995 is the determined cDNA sequence for clone

R0098:A05.

SEQ ID NO: 996 is the determined cDNA sequence for clone

R0098:A06.

SEQ ID NO: 997 is the determined cDNA sequence for clone

15 R0098:A10.

SEQ ID NO: 998 is the determined cDNA sequence for clone

R0098:A12.

SEQ ID NO: 999 is the determined cDNA sequence for clone

R0098:B01.

20 SEQ ID NO: 1000 is the determined cDNA sequence for clone

R0098:B02.

SEQ ID NO: 1001 is the determined cDNA sequence for clone

R0098:B05.

SEQ ID NO: 1002 is the determined cDNA sequence for clone

25 R0098:B06.

SEQ ID NO: 1003 is the determined cDNA sequence for clone

R0098:B10.

SEQ ID NO: 1004 is the determined cDNA sequence for clone

R0098:C03.

30 SEQ ID NO: 1005 is the determined cDNA sequence for clone

R0098:C04.

SEQ ID NO: 1006 is the determined cDNA sequence for clone
R0098:C05.

SEQ ID NO: 1007 is the determined cDNA sequence for clone
R0098:C10.

5 SEQ ID NO: 1008 is the determined cDNA sequence for clone
R0098:C11.

SEQ ID NO: 1009 is the determined cDNA sequence for clone
R0098:D01.

10 SEQ ID NO: 1010 is the determined cDNA sequence for clone
R0098:D02.

SEQ ID NO: 1011 is the determined cDNA sequence for clone
R0098:D07.

SEQ ID NO: 1012 is the determined cDNA sequence for clone
R0098:D08.

15 SEQ ID NO: 1013 is the determined cDNA sequence for clone
R0098:D09.

SEQ ID NO: 1014 is the determined cDNA sequence for clone
R0098:D10.

20 SEQ ID NO: 1015 is the determined cDNA sequence for clone
R0098:D11.

SEQ ID NO: 1016 is the determined cDNA sequence for clone
R0098:D12.

SEQ ID NO: 1017 is the determined cDNA sequence for clone
R0098:E01.

25 SEQ ID NO: 1018 is the determined cDNA sequence for clone
R0098:E04.

SEQ ID NO: 1019 is the determined cDNA sequence for clone
R0098:E05.

30 SEQ ID NO: 1020 is the determined cDNA sequence for clone
R0098:E06.

SEQ ID NO: 1021 is the determined cDNA sequence for clone

R0098:E07.

SEQ ID NO: 1022 is the determined cDNA sequence for clone

R0098:E11.

SEQ ID NO: 1023 is the determined cDNA sequence for clone

5 R0098:F04.

SEQ ID NO: 1024 is the determined cDNA sequence for clone

R0098:F05.

SEQ ID NO: 1025 is the determined cDNA sequence for clone

R0098:F06.

10 SEQ ID NO: 1026 is the determined cDNA sequence for clone

R0098:F07.

SEQ ID NO: 1027 is the determined cDNA sequence for clone

R0098:F08.

SEQ ID NO: 1028 is the determined cDNA sequence for clone

15 R0098:F09.

SEQ ID NO: 1029 is the determined cDNA sequence for clone

R0098:F10.

SEQ ID NO: 1030 is the determined cDNA sequence for clone

R0098:F11.

20 SEQ ID NO: 1031 is the determined cDNA sequence for clone

R0098:F12.

SEQ ID NO: 1032 is the determined cDNA sequence for clone

R0098:G02.

SEQ ID NO: 1033 is the determined cDNA sequence for clone

25 R0098:G03.

SEQ ID NO: 1034 is the determined cDNA sequence for clone

R0098:G05.

SEQ ID NO: 1035 is the determined cDNA sequence for clone

R0098:G06.

30 SEQ ID NO: 1036 is the determined cDNA sequence for clone

R0098:G07.

SEQ ID NO: 1037 is the determined cDNA sequence for clone
R0098:G08.

SEQ ID NO: 1038 is the determined cDNA sequence for clone
R0098:G09.

5 SEQ ID NO: 1039 is the determined cDNA sequence for clone
R0098:G10.

SEQ ID NO: 1040 is the determined cDNA sequence for clone
R0098:G11.

10 SEQ ID NO: 1041 is the determined cDNA sequence for clone
R0098:G12.

SEQ ID NO: 1042 is the determined cDNA sequence for clone
R0098:H02.

SEQ ID NO: 1043 is the determined cDNA sequence for clone
R0098:H03.

15 SEQ ID NO: 1044 is the determined cDNA sequence for clone
R0098:H04.

SEQ ID NO: 1045 is the determined cDNA sequence for clone
R0098:H05.

20 SEQ ID NO: 1046 is the determined cDNA sequence for clone
R0098:H07.

SEQ ID NO: 1047 is the determined cDNA sequence for clone
R0098:H08.

SEQ ID NO: 1048 is the determined cDNA sequence for clone
R0098:H11.

25 SEQ ID NO: 1049 is the determined cDNA sequence for clone C878P
which shows sequence similarity to homo sapiens cDNA FLJ10884 fis, clone
NT2RP4001950 and homo sapiens cDNA FLJ11111 fis, clone PLACE1005923.

SEQ ID NO: 1050 is the determined cDNA sequence for clone C882P which
shows sequence similarity to homo sapiens cDNA FLJ20116 fis, clone COLO 5655
30 and homo sapiens cDNA FLJ20740 fis, clone HEP07118.

SEQ ID NO: 1051 is the determined cDNA sequence for clone C883P which shows sequence similarity to human homeobox protein Cdx2 mRNA.

SEQ ID NO: 1052 is the determined cDNA sequence for clone C884P which shows sequence similarity to human TM4SF3 (aka, CO-029).

5 SEQ ID NO: 1053 is the determined cDNA sequence for clone C886P which shows sequence similarity to human secretory protein (P1.B) mRNA and homo sapiens trefoil factor 3 (intestinal) (TFF3) mRNA.

SEQ ID NO: 1054 is the determined cDNA sequence for clone C892P which shows sequence similarity to human galectin-4 mRNA.

10 SEQ ID NO: 1055 is the determined cDNA sequence for clone C900P which shows sequence similarity to homo sapiens mucin 11 (MUC11) mRNA.

SEQ ID NO: 1056 is the determined cDNA sequence for clone C902P which shows sequence similarity to homo sapiens calcium-dependent chloride channel-1 (hCLCA1) mRNA.

15 SEQ ID NO: 1057 is the determined cDNA sequence for clone C903P which shows sequence similarity to homo sapiens transmembrane mucin 12 (MUC12) mRNA.

SEQ ID NO: 1058 is the determined cDNA sequence for clone C899P which shows sequence similarity to homo sapiens intestinal mucin (MUC2) mRNA.

20 SEQ ID NO:1059 is the predicted amino acid sequence for the clone of SEQ ID NO:1049.

SEQ ID NO:1060 is the predicted amino acid sequence for the clone of SEQ ID NO:1050.

25 SEQ ID NO:1061 is the predicted amino acid sequence for the clone of SEQ ID NO:1051.

SEQ ID NO:1062 is the predicted amino acid sequence for the clone of SEQ ID NO:1052.

SEQ ID NO:1063 is the predicted amino acid sequence for the clone of SEQ ID NO:1053.

30 SEQ ID NO:1064 is the predicted amino acid sequence for the clone of SEQ ID NO:1054.

SEQ ID NO:1065 is the predicted amino acid sequence for the clone of SEQ ID NO:1055.

SEQ ID NO:1066 is the predicted amino acid sequence for the clone of SEQ ID NO:1056.

5 SEQ ID NO:1067 is the predicted amino acid sequence for the clone of SEQ ID NO:1057.

SEQ ID NO:1068 is the predicted amino acid sequence for the clone of SEQ ID NO:1058.

10 SEQ ID NO:1069 is the full length nucleotide sequence for clone CS1-152 (C880P, C887P).

SEQ ID NO:1070 is the predicted amino acid sequence for the clone of SEQ ID NO:1069.

SEQ ID NO:1071 is the cDNA sequence for human colon specific gene (geneseq X03195) identified from a computer search of the public geneseq database
15 and which shows similarity to clone C880P.

SEQ ID NO:1072 is the cDNA sequence for human protein comprising secretory signal nucleotide sequence 3 (geneseq V29035) identified from a computer search of the public geneseq database and which shows similarity to clone C880P.

20 SEQ ID NO:1073 is the cDNA sequence for open reading frame human protein comprising secretory signal 3 (geneseq V29036) identified from a computer search of the public geneseq database and which shows similarity to clone C880P.

SEQ ID NO:1074 is the cDNA sequence for human colon specific protein cDNA (geneseq T51784) identified from a computer search of the public geneseq database and which shows similarity to clone C880P.

25 SEQ ID NO:1075 is the cDNA sequence for human Reg 1-gamma protein (geneseq V29156) identified from a computer search of the public geneseq database and which shows similarity to clone C880P.

30 SEQ ID NO:1076 is the cDNA sequence for human intestinal peptide-associated transporter HPT-1 mRNA, complete cds and homo sapiens mRNA for L1-cadherin (geneseq X18166) identified from a computer search of the public geneseq database and which shows similarity to clone C888P.

SEQ ID NO:1077 is the amino acid sequence of geneseq record W12691 which shows sequence similarity to clone C880P.

SEQ ID NO:1078 is the amino acid sequence of geneseq record W37866 which shows sequence similarity to clone C880P.

5 SEQ ID NO:1079 is the amino acid sequence of geneseq record W37929 which shows sequence similarity to clone C880P.

SEQ ID NO:1080 is the amino acid sequence of geneseq record W84274 which shows sequence similarity to clone C880P.

10 SEQ ID NO:1081 is the amino acid sequence of geneseq record W740898 which shows sequence similarity to clone C888P.

SEQ ID NO:1082 is the determined cDNA sequence for clone 27540

SEQ ID NO:1083 is the predicted amino acid sequence of clone 27540 (SEQ ID NO:1082)

DETAILED DESCRIPTION OF THE INVENTION

15 As noted above, the present invention is generally directed to compositions and methods for the therapy and diagnosis of cancer, such as colon cancer. The compositions described herein may include colon tumor polypeptides, polynucleotides encoding such polypeptides, binding agents such as antibodies, antigen presenting cells (APCs) and/or immune system cells (e.g., T cells).

20 Polypeptides of the present invention generally comprise at least a portion (such as an immunogenic portion) of a colon tumor protein or a variant thereof. A "colon tumor protein" is a protein that is expressed in colon tumor cells at a level that is at least two fold, and preferably at least five fold, greater than the level of expression in a normal tissue, as determined using a representative assay provided herein. Certain colon

25 tumor proteins are tumor proteins that react detectably (within an immunoassay, such as an ELISA or Western blot) with antisera of a patient afflicted with colon cancer. Polynucleotides of the subject invention generally comprise a DNA or RNA sequence that encodes all or a portion of such a polypeptide, or that is complementary to such a sequence. Antibodies are generally immune system proteins, or antigen-binding

30 fragments thereof, that are capable of binding to a polypeptide as described above.

Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B-cells that express a polypeptide as described above. T cells that may be employed within such compositions are generally T cells that are specific for a polypeptide as described above.

5 The present invention is based on the discovery of human colon tumor proteins. Sequences of polynucleotides encoding specific tumor proteins are provided in SEQ ID NO: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081.

COLON TUMOR PROTEIN POLYNUCLEOTIDES

10 Any polynucleotide that encodes a colon tumor protein or a portion or other variant thereof as described herein is encompassed by the present invention. Preferred polynucleotides comprise at least 15 consecutive nucleotides, preferably at least 30 consecutive nucleotides and more preferably at least 45 consecutive nucleotides, that encode a portion of a colon tumor protein. More preferably, a
15 polynucleotide encodes an immunogenic portion of a colon tumor protein. Polynucleotides complementary to any such sequences are also encompassed by the present invention. Polynucleotides may be single-stranded (coding or antisense) or double-stranded, and may be DNA (genomic, cDNA or synthetic) or RNA molecules. RNA molecules include HnRNA molecules, which contain introns and correspond to
20 a DNA molecule in a one-to-one manner, and mRNA molecules, which do not contain introns. Additional coding or non-coding sequences may, but need not, be present within a polynucleotide of the present invention, and a polynucleotide may, but need not, be linked to other molecules and/or support materials.

 Polynucleotides may comprise a native sequence (*i.e.*, an endogenous
25 sequence that encodes a colon tumor protein or a portion thereof) or may comprise a variant of such a sequence. Polynucleotide variants may contain one or more substitutions, additions, deletions and/or insertions such that the immunogenicity of the encoded polypeptide is not diminished, relative to a native tumor protein. The effect on the immunogenicity of the encoded polypeptide may generally be assessed as
30 described herein. Variants preferably exhibit at least about 70% identity, more preferably at least about 80% identity and most preferably at least about 90% identity

to a polynucleotide sequence that encodes a native colon tumor protein or a portion thereof.

Two polynucleotide or polypeptide sequences are said to be "identical" if the sequence of nucleotides or amino acids in the two sequences is the same when aligned for maximum correspondence as described below. Comparisons between two sequences are typically performed by comparing the sequences over a comparison window to identify and compare local regions of sequence similarity. A "comparison window" as used herein, refers to a segment of at least about 20 contiguous positions, usually 30 to about 75, in which a sequence may be compared to a reference sequence of the same number of contiguous positions after the two sequences are optimally aligned.

Optimal alignment of sequences for comparison may be conducted using the Megalign program in the Lasergene suite of bioinformatics software (DNASTAR, Inc., Madison, WI), using default parameters. This program embodies several alignment schemes described in the following references: Dayhoff, M.O. (1978) A model of evolutionary change in proteins – Matrices for detecting distant relationships. In Dayhoff, M.O. (ed.) *Atlas of Protein Sequence and Structure*, National Biomedical Research Foundation, Washington DC Vol. 5, Suppl. 3, pp. 345-358; Hein J. (1990) *Unified Approach to Alignment and Phylogenies* pp. 626-645 *Methods in Enzymology* vol. 183, Academic Press, Inc., San Diego, CA; Higgins, D.G. and Sharp, P.M. (1989) *CABIOS* 5:151-153; Myers, E.W. and Muller W. (1988) *CABIOS* 4:11-17; Robinson, E.D. (1971) *Comb. Theor* 11:105; Santou, N. Nes, M. (1987) *Mol. Biol. Evol.* 4:406-425; Sneath, P.H.A. and Sokal, R.R. (1973) *Numerical Taxonomy – the Principles and Practice of Numerical Taxonomy*, Freeman Press, San Francisco, CA; Wilbur, W.J. and Lipman, D.J. (1983) *Proc. Natl. Acad. Sci. USA* 80:726-730.

Preferably, the "percentage of sequence identity" is determined by comparing two optimally aligned sequences over a window of comparison of at least 20 positions, wherein the portion of the polynucleotide or polypeptide sequence in the comparison window may comprise additions or deletions (i.e. gaps) of 20 percent or less, usually 5 to 15 percent, or 10 to 12 percent, as compared to the reference

sequence (which does not comprise additions or deletions) for optimal alignment of the two sequences. The percentage is calculated by determining the number of positions at which the identical nucleic acid bases or amino acid residue occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions in the reference sequence (i.e. the window size) and multiplying the results by 100 to yield the percentage of sequence identity.

Variants may also, or alternatively, be substantially homologous to a native gene, or a portion or complement thereof. Such polynucleotide variants are capable of hybridizing under moderately stringent conditions to a naturally occurring DNA sequence encoding a native colon tumor protein (or a complementary sequence). Suitable moderately stringent conditions include prewashing in a solution of 5 X SSC, 0.5% SDS, 1.0 mM EDTA (pH 8.0); hybridizing at 50°C-65°C, 5 X SSC, overnight; followed by washing twice at 65°C for 20 minutes with each of 2X, 0.5X and 0.2X SSC containing 0.1% SDS.

It will be appreciated by those of ordinary skill in the art that, as a result of the degeneracy of the genetic code, there are many nucleotide sequences that encode a polypeptide as described herein. Some of these polynucleotides bear minimal homology to the nucleotide sequence of any native gene. Nonetheless, polynucleotides that vary due to differences in codon usage are specifically contemplated by the present invention. Further, alleles of the genes comprising the polynucleotide sequences provided herein are within the scope of the present invention. Alleles are endogenous genes that are altered as a result of one or more mutations, such as deletions, additions and/or substitutions of nucleotides. The resulting mRNA and protein may, but need not, have an altered structure or function. Alleles may be identified using standard techniques (such as hybridization, amplification and/or database sequence comparison).

Polynucleotides may be prepared using any of a variety of techniques. For example, a polynucleotide may be identified, as described in more detail below, by screening a microarray of cDNAs for tumor-associated expression (i.e., expression that is at least two fold greater in a colon tumor than in normal tissue, as determined

using a representative assay provided herein). Such screens may be performed using a Synteni microarray (Palo Alto, CA) according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997).

5 Alternatively, polypeptides may be amplified from cDNA prepared from cells expressing the proteins described herein, such as colon tumor cells. Such polynucleotides may be amplified via polymerase chain reaction (PCR). For this approach, sequence-specific primers may be designed based on the sequences provided herein, and may be purchased or synthesized.

10 An amplified portion may be used to isolate a full length gene from a suitable library (e.g., a colon tumor cDNA library) using well known techniques. Within such techniques, a library (cDNA or genomic) is screened using one or more polynucleotide probes or primers suitable for amplification. Preferably, a library is size-selected to include larger molecules. Random primed libraries may also be
15 preferred for identifying 5' and upstream regions of genes. Genomic libraries are preferred for obtaining introns and extending 5' sequences.

For hybridization techniques, a partial sequence may be labeled (e.g., by nick-translation or end-labeling with ³²P) using well known techniques. A bacterial or bacteriophage library is then screened by hybridizing filters containing
20 denatured bacterial colonies (or lawns containing phage plaques) with the labeled probe (see Sambrook et al., *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratories, Cold Spring Harbor, NY, 1989). Hybridizing colonies or plaques are selected and expanded, and the DNA is isolated for further analysis. cDNA clones may be analyzed to determine the amount of additional sequence by, for
25 example, PCR using a primer from the partial sequence and a primer from the vector. Restriction maps and partial sequences may be generated to identify one or more overlapping clones. The complete sequence may then be determined using standard techniques, which may involve generating a series of deletion clones. The resulting overlapping sequences are then assembled into a single contiguous sequence. A full
30 length cDNA molecule can be generated by ligating suitable fragments, using well known techniques.

Alternatively, there are numerous amplification techniques for obtaining a full length coding sequence from a partial cDNA sequence. Within such techniques, amplification is generally performed via PCR. Any of a variety of commercially available kits may be used to perform the amplification step. Primers
5 may be designed using, for example, software well known in the art. Primers are preferably 22-30 nucleotides in length, have a GC content of at least 50% and anneal to the target sequence at temperatures of about 68°C to 72°C. The amplified region may be sequenced as described above, and overlapping sequences assembled into a contiguous sequence.

10 One such amplification technique is inverse PCR (*see* Triglia et al., *Nucl. Acids Res.* 16:8186, 1988), which uses restriction enzymes to generate a fragment in the known region of the gene. The fragment is then circularized by intramolecular ligation and used as a template for PCR with divergent primers derived from the known region. Within an alternative approach, sequences adjacent to a
15 partial sequence may be retrieved by amplification with a primer to a linker sequence and a primer specific to a known region. The amplified sequences are typically subjected to a second round of amplification with the same linker primer and a second primer specific to the known region. A variation on this procedure, which employs two primers that initiate extension in opposite directions from the known sequence, is
20 described in WO 96/38591. Another such technique is known as "rapid amplification of cDNA ends" or RACE. This technique involves the use of an internal primer and an external primer, which hybridizes to a polyA region or vector sequence, to identify sequences that are 5' and 3' of a known sequence. Additional techniques include capture PCR (Lagerstrom et al., *PCR Methods Applic.* 1:111-19, 1991) and walking
25 PCR (Parker et al., *Nucl. Acids Res.* 19:3055-60, 1991). Other methods employing amplification may also be employed to obtain a full length cDNA sequence.

In certain instances, it is possible to obtain a full length cDNA sequence by analysis of sequences provided in an expressed sequence tag (EST) database, such as that available from GenBank. Searches for overlapping ESTs may
30 generally be performed using well known programs (e.g., NCBI BLAST searches), and such ESTs may be used to generate a contiguous full length sequence.

Certain nucleic acid sequences of cDNA molecules encoding portions of colon tumor proteins are provided in SEQ ID NO: 1-121, 123-197, 205-630, 632-684, 686, 690-691, and 694-1081. These polynucleotides were isolated from colon tumor cDNA libraries using conventional and/or PCR-based subtraction techniques, as described below.

Polynucleotide variants may generally be prepared by any method known in the art, including chemical synthesis by, for example, solid phase phosphoramidite chemical synthesis. Modifications in a polynucleotide sequence may also be introduced using standard mutagenesis techniques, such as oligonucleotide-directed site-specific mutagenesis (*see* Adelman et al., *DNA* 2:183, 1983). Alternatively, RNA molecules may be generated by *in vitro* or *in vivo* transcription of DNA sequences encoding a colon tumor protein, or portion thereof, provided that the DNA is incorporated into a vector with a suitable RNA polymerase promoter (such as T7 or SP6). Certain portions may be used to prepare an encoded polypeptide, as described herein. In addition, or alternatively, a portion may be administered to a patient such that the encoded polypeptide is generated *in vivo* (*e.g.*, by transfecting antigen-presenting cells, such as dendritic cells, with a cDNA construct encoding a colon tumor polypeptide, and administering the transfected cells to the patient).

A portion of a sequence complementary to a coding sequence (*i.e.*, an antisense polynucleotide) may also be used as a probe or to modulate gene expression. cDNA constructs that can be transcribed into antisense RNA may also be introduced into cells of tissues to facilitate the production of antisense RNA. An antisense polynucleotide may be used, as described herein, to inhibit expression of a tumor protein. Antisense technology can be used to control gene expression through triple-helix formation, which compromises the ability of the double helix to open sufficiently for the binding of polymerases, transcription factors or regulatory molecules (*see* Gee et al., *In* Huber and Carr, *Molecular and Immunologic Approaches*, Futura Publishing Co. (Mt. Kisco, NY; 1994)). Alternatively, an antisense molecule may be designed to hybridize with a control region of a gene (*e.g.*, promoter, enhancer or transcription initiation site), and block transcription of the gene; or to block translation by inhibiting binding of a transcript to ribosomes.

A portion of a coding sequence, or of a complementary sequence, may also be designed as a probe or primer to detect gene expression. Probes may be labeled with a variety of reporter groups, such as radionuclides and enzymes, and are preferably at least 10 nucleotides in length, more preferably at least 20 nucleotides in length and still more preferably at least 30 nucleotides in length. Primers, as noted above, are preferably 22-30 nucleotides in length.

Any polynucleotide may be further modified to increase stability *in vivo*. Possible modifications include, but are not limited to, the addition of flanking sequences at the 5' and/or 3' ends; the use of phosphorothioate or 2' O-methyl rather than phosphodiesterase linkages in the backbone; and/or the inclusion of nontraditional bases such as inosine, queosine and wybutosine, as well as acetyl-methyl-, thio- and other modified forms of adenine, cytidine, guanine, thymine and uridine.

Nucleotide sequences as described herein may be joined to a variety of other nucleotide sequences using established recombinant DNA techniques. For example, a polynucleotide may be cloned into any of a variety of cloning vectors, including plasmids, phagemids, lambda phage derivatives and cosmids. Vectors of particular interest include expression vectors, replication vectors, probe generation vectors and sequencing vectors. In general, a vector will contain an origin of replication functional in at least one organism, convenient restriction endonuclease sites and one or more selectable markers. Other elements will depend upon the desired use, and will be apparent to those of ordinary skill in the art.

Within certain embodiments, polynucleotides may be formulated so as to permit entry into a cell of a mammal, and expression therein. Such formulations are particularly useful for therapeutic purposes, as described below. Those of ordinary skill in the art will appreciate that there are many ways to achieve expression of a polynucleotide in a target cell, and any suitable method may be employed. For example, a polynucleotide may be incorporated into a viral vector such as, but not limited to, adenovirus, adeno-associated virus, retrovirus, or vaccinia or other pox virus (*e.g.*, avian pox virus). Techniques for incorporating DNA into such vectors are well known to those of ordinary skill in the art. A retroviral vector may additionally

transfer or incorporate a gene for a selectable marker (to aid in the identification or selection of transduced cells) and/or a targeting moiety, such as a gene that encodes a ligand for a receptor on a specific target cell, to render the vector target specific. Targeting may also be accomplished using an antibody, by methods known to those of ordinary skill in the art.

Other formulations for therapeutic purposes include colloidal dispersion systems, such as macromolecule complexes, nanocapsules, microspheres, beads, and lipid-based systems including oil-in-water emulsions, micelles, mixed micelles, and liposomes. A preferred colloidal system for use as a delivery vehicle *in vitro* and *in vivo* is a liposome (*i.e.*, an artificial membrane vesicle). The preparation and use of such systems is well known in the art.

COLON TUMOR POLYPEPTIDES

Within the context of the present invention, polypeptides may comprise at least an immunogenic portion of a colon tumor protein or a variant thereof, as described herein. As noted above, a "colon tumor protein" is a protein that is expressed by colon tumor cells. Proteins that are colon tumor proteins also react detectably within an immunoassay (such as an ELISA) with antisera from a patient with colon cancer. Polypeptides as described herein may be of any length. Additional sequences derived from the native protein and/or heterologous sequences may be present, and such sequences may (but need not) possess further immunogenic or antigenic properties.

An "immunogenic portion," as used herein is a portion of a protein that is recognized (*i.e.*, specifically bound) by a B-cell and/or T-cell surface antigen receptor. Such immunogenic portions generally comprise at least 5 amino acid residues, more preferably at least 10, and still more preferably at least 20 amino acid residues of a colon tumor protein or a variant thereof. Certain preferred immunogenic portions include peptides in which an N-terminal leader sequence and/or transmembrane domain have been deleted. Other preferred immunogenic portions may contain a small N- and/or C-terminal deletion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids), relative to the mature protein.

Immunogenic portions may generally be identified using well known techniques, such as those summarized in Paul, *Fundamental Immunology*, 3rd ed., 243-247 (Raven Press, 1993) and references cited therein. Such techniques include screening polypeptides for the ability to react with antigen-specific antibodies, antisera and/or T-cell lines or clones. As used herein, antisera and antibodies are "antigen-specific" if they specifically bind to an antigen (*i.e.*, they react with the protein in an ELISA or other immunoassay, and do not react detectably with unrelated proteins). Such antisera and antibodies may be prepared as described herein, and using well known techniques. An immunogenic portion of a native colon tumor protein is a portion that reacts with such antisera and/or T-cells at a level that is not substantially less than the reactivity of the full length polypeptide (*e.g.*, in an ELISA and/or T-cell reactivity assay). Such immunogenic portions may react within such assays at a level that is similar to or greater than the reactivity of the full length polypeptide. Such screens may generally be performed using methods well known to those of ordinary skill in the art, such as those described in Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. For example, a polypeptide may be immobilized on a solid support and contacted with patient sera to allow binding of antibodies within the sera to the immobilized polypeptide. Unbound sera may then be removed and bound antibodies detected using, for example, ¹²⁵I-labeled Protein A.

As noted above, a composition may comprise a variant of a native colon tumor protein. A polypeptide "variant," as used herein, is a polypeptide that differs from a native colon tumor protein in one or more substitutions, deletions, additions and/or insertions, such that the immunogenicity of the polypeptide is not substantially diminished. In other words, the ability of a variant to react with antigen-specific antisera may be enhanced or unchanged, relative to the native protein, or may be diminished by less than 50%, and preferably less than 20%, relative to the native protein. Such variants may generally be identified by modifying one of the above polypeptide sequences and evaluating the reactivity of the modified polypeptide with antigen-specific antibodies or antisera as described herein. Preferred variants include those in which one or more portions, such as an N-terminal leader sequence or transmembrane domain, have been removed. Other preferred variants include variants

in which a small portion (e.g., 1-30 amino acids, preferably 5-15 amino acids) has been removed from the N- and/or C-terminal of the mature protein.

Polypeptide variants preferably exhibit at least about 70%, more preferably at least about 90% and most preferably at least about 95% identity
5 (determined as described above) to the identified polypeptides.

Preferably, a variant contains conservative substitutions. A "conservative substitution" is one in which an amino acid is substituted for another amino acid that has similar properties, such that one skilled in the art of peptide chemistry would expect the secondary structure and hydrophobic nature of the
10 polypeptide to be substantially unchanged. Amino acid substitutions may generally be made on the basis of similarity in polarity, charge, solubility, hydrophobicity, hydrophilicity and/or the amphipathic nature of the residues. For example, negatively charged amino acids include aspartic acid and glutamic acid; positively charged amino acids include lysine and arginine; and amino acids with uncharged polar head groups
15 having similar hydrophilicity values include leucine, isoleucine and valine; glycine and alanine; asparagine and glutamine; and serine, threonine, phenylalanine and tyrosine. Other groups of amino acids that may represent conservative changes include: (1) ala, pro, gly, glu, asp, gln, asn, ser, thr; (2) cys, ser, tyr, thr; (3) val, ile, leu, met, ala, phe; (4) lys, arg, his; and (5) phe, tyr, trp, his. A variant may also, or
20 alternatively, contain non-conservative changes. In a preferred embodiment, variant polypeptides differ from a native sequence by substitution, deletion or addition of five amino acids or fewer. Variants may also (or alternatively) be modified by, for example, the deletion or addition of amino acids that have minimal influence on the immunogenicity, secondary structure and hydrophobic nature of the polypeptide.

25 As noted above, polypeptides may comprise a signal (or leader) sequence at the N-terminal end of the protein which co-translationally or post-translationally directs transfer of the protein. The polypeptide may also be conjugated to a linker or other sequence for ease of synthesis, purification or identification of the polypeptide (e.g., poly-His), or to enhance binding of the polypeptide to a solid
30 support. For example, a polypeptide may be conjugated to an immunoglobulin Fc region.

Polypeptides may be prepared using any of a variety of well known techniques. Recombinant polypeptides encoded by DNA sequences as described above may be readily prepared from the DNA sequences using any of a variety of expression vectors known to those of ordinary skill in the art. Expression may be achieved in any appropriate host cell that has been transformed or transfected with an expression vector containing a DNA molecule that encodes a recombinant polypeptide. Suitable host cells include prokaryotes, yeast and higher eukaryotic cells. Preferably, the host cells employed are *E. coli*, yeast or a mammalian cell line such as COS or CHO. Supernatants from suitable host/vector systems which secrete recombinant protein or polypeptide into culture media may be first concentrated using a commercially available filter. Following concentration, the concentrate may be applied to a suitable purification matrix such as an affinity matrix or an ion exchange resin. Finally, one or more reverse phase HPLC steps can be employed to further purify a recombinant polypeptide.

Portions and other variants having fewer than about 100 amino acids, and generally fewer than about 50 amino acids, may also be generated by synthetic means, using techniques well known to those of ordinary skill in the art. For example, such polypeptides may be synthesized using any of the commercially available solid-phase techniques, such as the Merrifield solid-phase synthesis method, where amino acids are sequentially added to a growing amino acid chain. See Merrifield, *J. Am. Chem. Soc.* 85:2149-2146, 1963. Equipment for automated synthesis of polypeptides is commercially available from suppliers such as Perkin Elmer/Applied BioSystems Division (Foster City, CA), and may be operated according to the manufacturer's instructions.

Within certain specific embodiments, a polypeptide may be a fusion protein that comprises multiple polypeptides as described herein, or that comprises at least one polypeptide as described herein and an unrelated sequence, such as a known tumor protein. A fusion partner may, for example, assist in providing T helper epitopes (an immunological fusion partner), preferably T helper epitopes recognized by humans, or may assist in expressing the protein (an expression enhancer) at higher yields than the native recombinant protein. Certain preferred fusion partners are both

immunological and expression enhancing fusion partners. Other fusion partners may be selected so as to increase the solubility of the protein or to enable the protein to be targeted to desired intracellular compartments. Still further fusion partners include affinity tags, which facilitate purification of the protein.

5 Fusion proteins may generally be prepared using standard techniques, including chemical conjugation. Preferably, a fusion protein is expressed as a recombinant protein, allowing the production of increased levels, relative to a non-fused protein, in an expression system. Briefly, DNA sequences encoding the polypeptide components may be assembled separately, and ligated into an appropriate
10 expression vector. The 3' end of the DNA sequence encoding one polypeptide component is ligated, with or without a peptide linker, to the 5' end of a DNA sequence encoding the second polypeptide component so that the reading frames of the sequences are in phase. This permits translation into a single fusion protein that retains the biological activity of both component polypeptides.

15 A peptide linker sequence may be employed to separate the first and the second polypeptide components by a distance sufficient to ensure that each polypeptide folds into its secondary and tertiary structures. Such a peptide linker sequence is incorporated into the fusion protein using standard techniques well known in the art. Suitable peptide linker sequences may be chosen based on the following
20 factors: (1) their ability to adopt a flexible extended conformation; (2) their inability to adopt a secondary structure that could interact with functional epitopes on the first and second polypeptides; and (3) the lack of hydrophobic or charged residues that might react with the polypeptide functional epitopes. Preferred peptide linker sequences contain Gly, Asn and Ser residues. Other near neutral amino acids, such as
25 Thr and Ala may also be used in the linker sequence. Amino acid sequences which may be usefully employed as linkers include those disclosed in Maratea et al., *Gene* 40:39-46, 1985; Murphy et al., *Proc. Natl. Acad. Sci. USA* 83:8258-8262, 1986; U.S. Patent No. 4,935,233 and U.S. Patent No. 4,751,180. The linker sequence may generally be from 1 to about 50 amino acids in length. Linker sequences are not
30 required when the first and second polypeptides have non-essential N-terminal amino

acid regions that can be used to separate the functional domains and prevent steric interference.

The ligated DNA sequences are operably linked to suitable transcriptional or translational regulatory elements. The regulatory elements responsible for expression of DNA are located only 5' to the DNA sequence encoding the first polypeptides. Similarly, stop codons required to end translation and transcription termination signals are only present 3' to the DNA sequence encoding the second polypeptide.

Fusion proteins are also provided that comprise a polypeptide of the present invention together with an unrelated immunogenic protein. Preferably the immunogenic protein is capable of eliciting a recall response. Examples of such proteins include tetanus, tuberculosis and hepatitis proteins (*see, for example, Stoute et al. New Engl. J. Med.*, 336:86-91, 1997).

Within preferred embodiments, an immunological fusion partner is derived from protein D, a surface protein of the gram-negative bacterium *Haemophilus influenza B* (WO 91/18926). Preferably, a protein D derivative comprises approximately the first third of the protein (*e.g.*, the first N-terminal 100-110 amino acids), and a protein D derivative may be lipidated. Within certain preferred embodiments, the first 109 residues of a Lipoprotein D fusion partner is included on the N-terminus to provide the polypeptide with additional exogenous T-cell epitopes and to increase the expression level in *E. coli* (thus functioning as an expression enhancer). The lipid tail ensures optimal presentation of the antigen to antigen presenting cells. Other fusion partners include the non-structural protein from influenzae virus, NS1 (hemagglutinin). Typically, the N-terminal 81 amino acids are used, although different fragments that include T-helper epitopes may be used.

In another embodiment, the immunological fusion partner is the protein known as LYTA, or a portion thereof (preferably a C-terminal portion). LYTA is derived from *Streptococcus pneumoniae*, which synthesizes an N-acetyl-L-alanine amidase known as amidase LYTA (encoded by the *LytA* gene; *Gene* 43:265-292, 1986). LYTA is an autolysin that specifically degrades certain bonds in the peptidoglycan backbone. The C-terminal domain of the LYTA protein is responsible

for the affinity to the choline or to some choline analogues such as DEAE. This property has been exploited for the development of *E. coli* C-LYTA expressing plasmids useful for expression of fusion proteins. Purification of hybrid proteins containing the C-LYTA fragment at the amino terminus has been described (see 5 *Biotechnology* 10:795-798, 1992). Within a preferred embodiment, a repeat portion of LYTA may be incorporated into a fusion protein. A repeat portion is found in the C-terminal region starting at residue 178. A particularly preferred repeat portion incorporates residues 188-305.

In general, polypeptides (including fusion proteins) and 10 polynucleotides as described herein are isolated. An "isolated" polypeptide or polynucleotide is one that is removed from its original environment. For example, a naturally-occurring protein is isolated if it is separated from some or all of the coexisting materials in the natural system. Preferably, such polypeptides are at least about 90% pure, more preferably at least about 95% pure and most preferably at least 15 about 99% pure. A polynucleotide is considered to be isolated if, for example, it is cloned into a vector that is not a part of the natural environment.

BINDING AGENTS

The present invention further provides agents, such as antibodies and 20 antigen-binding fragments thereof, that specifically bind to a colon tumor protein. As used herein, an antibody, or antigen-binding fragment thereof, is said to "specifically bind" to a colon tumor protein if it reacts at a detectable level (within, for example, an ELISA) with a colon tumor protein, and does not react detectably with unrelated proteins under similar conditions. As used herein, "binding" refers to a noncovalent 25 association between two separate molecules such that a complex is formed. The ability to bind may be evaluated by, for example, determining a binding constant for the formation of the complex. The binding constant is the value obtained when the concentration of the complex is divided by the product of the component concentrations. In general, two compounds are said to "bind," in the context of the 30 present invention, when the binding constant for complex formation exceeds about

10^3 L/mol. The binding constant may be determined using methods well known in the art.

Binding agents may be further capable of differentiating between patients with and without a cancer, such as colon cancer, using the representative assays provided herein. In other words, antibodies or other binding agents that bind to a colon tumor protein will generate a signal indicating the presence of a cancer in at least about 20% of patients with the disease, and will generate a negative signal indicating the absence of the disease in at least about 90% of individuals without the cancer. To determine whether a binding agent satisfies this requirement, biological samples (e.g., blood, sera, sputum, urine and/or tumor biopsies) from patients with and without a cancer (as determined using standard clinical tests) may be assayed as described herein for the presence of polypeptides that bind to the binding agent. It will be apparent that a statistically significant number of samples with and without the disease should be assayed. Each binding agent should satisfy the above criteria; however, those of ordinary skill in the art will recognize that binding agents may be used in combination to improve sensitivity.

Any agent that satisfies the above requirements may be a binding agent. For example, a binding agent may be a ribosome, with or without a peptide component, an RNA molecule or a polypeptide. In a preferred embodiment, a binding agent is an antibody or an antigen-binding fragment thereof. Antibodies may be prepared by any of a variety of techniques known to those of ordinary skill in the art. See, e.g., Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, antibodies can be produced by cell culture techniques, including the generation of monoclonal antibodies as described herein, or via transfection of antibody genes into suitable bacterial or mammalian cell hosts, in order to allow for the production of recombinant antibodies. In one technique, an immunogen comprising the polypeptide is initially injected into any of a wide variety of mammals (e.g., mice, rats, rabbits, sheep or goats). In this step, the polypeptides of this invention may serve as the immunogen without modification. Alternatively, particularly for relatively short polypeptides, a superior immune response may be elicited if the polypeptide is joined to a carrier protein, such as bovine serum albumin

or keyhole limpet hemocyanin. The immunogen is injected into the animal host, preferably according to a predetermined schedule incorporating one or more booster immunizations, and the animals are bled periodically. Polyclonal antibodies specific for the polypeptide may then be purified from such antisera by, for example, affinity
5 chromatography using the polypeptide coupled to a suitable solid support.

Monoclonal antibodies specific for an antigenic polypeptide of interest may be prepared, for example, using the technique of Kohler and Milstein, *Eur. J. Immunol.* 6:511-519, 1976, and improvements thereto. Briefly, these methods involve the preparation of immortal cell lines capable of producing antibodies having the
10 desired specificity (*i.e.*, reactivity with the polypeptide of interest). Such cell lines may be produced, for example, from spleen cells obtained from an animal immunized as described above. The spleen cells are then immortalized by, for example, fusion with a myeloma cell fusion partner, preferably one that is syngeneic with the immunized animal. A variety of fusion techniques may be employed. For example, the spleen
15 cells and myeloma cells may be combined with a nonionic detergent for a few minutes and then plated at low density on a selective medium that supports the growth of hybrid cells, but not myeloma cells. A preferred selection technique uses HAT (hypoxanthine, aminopterin, thymidine) selection. After a sufficient time, usually about 1 to 2 weeks, colonies of hybrids are observed. Single colonies are selected and
20 their culture supernatants tested for binding activity against the polypeptide. Hybridomas having high reactivity and specificity are preferred.

Monoclonal antibodies may be isolated from the supernatants of growing hybridoma colonies. In addition, various techniques may be employed to enhance the yield, such as injection of the hybridoma cell line into the peritoneal
25 cavity of a suitable vertebrate host, such as a mouse. Monoclonal antibodies may then be harvested from the ascites fluid or the blood. Contaminants may be removed from the antibodies by conventional techniques, such as chromatography, gel filtration, precipitation, and extraction. The polypeptides of this invention may be used in the purification process in, for example, an affinity chromatography step.

30 Within certain embodiments, the use of antigen-binding fragments of antibodies may be preferred. Such fragments include Fab fragments, which may be

prepared using standard techniques. Briefly, immunoglobulins may be purified from rabbit serum by affinity chromatography on Protein A bead columns (Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988) and digested by papain to yield Fab and Fc fragments. The Fab and Fc fragments may be
5 separated by affinity chromatography on protein A bead columns.

Monoclonal antibodies of the present invention may be coupled to one or more therapeutic agents. Suitable agents in this regard include radionuclides, differentiation inducers, drugs, toxins, and derivatives thereof. Preferred radionuclides include ^{90}Y , ^{123}I , ^{125}I , ^{131}I , ^{186}Re , ^{188}Re , ^{211}At , and ^{212}Bi . Preferred drugs
10 include methotrexate, and pyrimidine and purine analogs. Preferred differentiation inducers include phorbol esters and butyric acid. Preferred toxins include ricin, abrin, diphtheria toxin, cholera toxin, gelonin, *Pseudomonas* exotoxin, *Shigella* toxin, and pokeweed antiviral protein.

A therapeutic agent may be coupled (e.g., covalently bonded) to a
15 suitable monoclonal antibody either directly or indirectly (e.g., via a linker group). A direct reaction between an agent and an antibody is possible when each possesses a substituent capable of reacting with the other. For example, a nucleophilic group, such as an amino or sulfhydryl group, on one may be capable of reacting with a carbonyl-containing group, such as an anhydride or an acid halide, or with an alkyl
20 group containing a good leaving group (e.g., a halide) on the other.

Alternatively, it may be desirable to couple a therapeutic agent and an antibody via a linker group. A linker group can function as a spacer to distance an antibody from an agent in order to avoid interference with binding capabilities. A linker group can also serve to increase the chemical reactivity of a substituent on an
25 agent or an antibody, and thus increase the coupling efficiency. An increase in chemical reactivity may also facilitate the use of agents, or functional groups on agents, which otherwise would not be possible.

It will be evident to those skilled in the art that a variety of bifunctional or polyfunctional reagents, both homo- and hetero-functional (such as those described
30 in the catalog of the Pierce Chemical Co., Rockford, IL), may be employed as the linker group. Coupling may be effected, for example, through amino groups, carboxyl

groups, sulfhydryl groups or oxidized carbohydrate residues. There are numerous references describing such methodology, *e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.

Where a therapeutic agent is more potent when free from the antibody
5 portion of the immunoconjugates of the present invention, it may be desirable to use a linker group which is cleavable during or upon internalization into a cell. A number of different cleavable linker groups have been described. The mechanisms for the intracellular release of an agent from these linker groups include cleavage by reduction of a disulfide bond (*e.g.*, U.S. Patent No. 4,489,710, to Spitler), by
10 irradiation of a photolabile bond (*e.g.*, U.S. Patent No. 4,625,014, to Senter et al.), by hydrolysis of derivatized amino acid side chains (*e.g.*, U.S. Patent No. 4,638,045, to Kohn et al.), by serum complement-mediated hydrolysis (*e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.), and acid-catalyzed hydrolysis (*e.g.*, U.S. Patent No. 4,569,789, to Blattler et al.).

15 It may be desirable to couple more than one agent to an antibody. In one embodiment, multiple molecules of an agent are coupled to one antibody molecule. In another embodiment, more than one type of agent may be coupled to one antibody. Regardless of the particular embodiment, immunoconjugates with more than one agent may be prepared in a variety of ways. For example, more than one
20 agent may be coupled directly to an antibody molecule, or linkers which provide multiple sites for attachment can be used. Alternatively, a carrier can be used.

A carrier may bear the agents in a variety of ways, including covalent bonding either directly or via a linker group. Suitable carriers include proteins such as albumins (*e.g.*, U.S. Patent No. 4,507,234, to Kato et al.), peptides and
25 polysaccharides such as aminodextran (*e.g.*, U.S. Patent No. 4,699,784, to Shih et al.). A carrier may also bear an agent by noncovalent bonding or by encapsulation, such as within a liposome vesicle (*e.g.*, U.S. Patent Nos. 4,429,008 and 4,873,088). Carriers specific for radionuclide agents include radiohalogenated small molecules and chelating compounds. For example, U.S. Patent No. 4,735,792 discloses
30 representative radiohalogenated small molecules and their synthesis. A radionuclide chelate may be formed from chelating compounds that include those containing

nitrogen and sulfur atoms as the donor atoms for binding the metal, or metal oxide, radionuclide. For example, U.S. Patent No. 4,673,562, to Davison et al. discloses representative chelating compounds and their synthesis.

A variety of routes of administration for the antibodies and
5 immunoconjugates may be used. Typically, administration will be intravenous, intramuscular, subcutaneous or in the bed of a resected tumor. It will be evident that the precise dose of the antibody/immunoconjugate will vary depending upon the antibody used, the antigen density on the tumor, and the rate of clearance of the antibody.

10

T CELLS

Immunotherapeutic compositions may also, or alternatively, comprise T cells specific for a colon tumor protein. Such cells may generally be prepared *in vitro* or *ex vivo*, using standard procedures. For example, T cells may be isolated from
15 bone marrow, peripheral blood, or a fraction of bone marrow or peripheral blood of a patient, using a commercially available cell separation system, such as the ISOLEX™ system, available from Nexell Therapeutics Inc., Irvine, CA. Alternatively, T cells may be derived from related or unrelated humans, non-human mammals, cell lines or cultures.

20 T cells may be stimulated with a colon tumor polypeptide, polynucleotide encoding a colon tumor polypeptide and/or an antigen presenting cell (APC) that expresses such a polypeptide. Such stimulation is performed under conditions and for a time sufficient to permit the generation of T cells that are specific for the polypeptide. Preferably, a colon tumor polypeptide or polynucleotide is
25 present within a delivery vehicle, such as a microsphere, to facilitate the generation of specific T cells.

T cells are considered to be specific for a colon tumor polypeptide if the T cells kill target cells coated with the polypeptide or expressing a gene encoding the polypeptide. T cell specificity may be evaluated using any of a variety of standard
30 techniques. For example, within a chromium release assay or proliferation assay, a stimulation index of more than two fold increase in lysis and/or proliferation,

compared to negative controls, indicates T cell specificity. Such assays may be performed, for example, as described in Chen et al., *Cancer Res.* 54:1065-1070, 1994. Alternatively, detection of the proliferation of T cells may be accomplished by a variety of known techniques. For example, T cell proliferation can be detected by measuring an increased rate of DNA synthesis (e.g., by pulse-labeling cultures of T cells with tritiated thymidine and measuring the amount of tritiated thymidine incorporated into DNA). Contact with a colon tumor polypeptide (100 ng/ml - 100 µg/ml, preferably 200 ng/ml - 25 µg/ml) for 3 - 7 days should result in at least a two fold increase in proliferation of the T cells. Contact as described above for 2-3 hours should result in activation of the T cells, as measured using standard cytokine assays in which a two fold increase in the level of cytokine release (e.g., TNF or IFN-γ) is indicative of T cell activation (see Coligan et al., *Current Protocols in Immunology*, vol. 1, Wiley Interscience (Greene 1998)). T cells that have been activated in response to a colon tumor polypeptide, polynucleotide or polypeptide-expressing APC may be CD4⁺ and/or CD8⁺. Colon tumor protein-specific T cells may be expanded using standard techniques. Within preferred embodiments, the T cells are derived from either a patient or a related, or unrelated, donor and are administered to the patient following stimulation and expansion.

For therapeutic purposes, CD4⁺ or CD8⁺ T cells that proliferate in response to a colon tumor polypeptide, polynucleotide or APC can be expanded in number either *in vitro* or *in vivo*. Proliferation of such T cells *in vitro* may be accomplished in a variety of ways. For example, the T cells can be re-exposed to a colon tumor polypeptide, or a short peptide corresponding to an immunogenic portion of such a polypeptide, with or without the addition of T cell growth factors, such as interleukin-2, and/or stimulator cells that synthesize a colon tumor polypeptide. Alternatively, one or more T cells that proliferate in the presence of a colon tumor protein can be expanded in number by cloning. Methods for cloning cells are well known in the art, and include limiting dilution.

30 PHARMACEUTICAL COMPOSITIONS AND VACCINES

Within certain aspects, polypeptides, polynucleotides, T cells and/or

binding agents disclosed herein may be incorporated into pharmaceutical compositions or immunogenic compositions (*i.e.*, vaccines). Pharmaceutical compositions comprise one or more such compounds and a physiologically acceptable carrier. Vaccines may comprise one or more such compounds and an immunostimulant. An immunostimulant may be any substance that enhances or potentiates an immune response to an exogenous antigen. Examples of immunostimulants include adjuvants, biodegradable microspheres (*e.g.*, polylactic galactide) and liposomes (into which the compound is incorporated; *see e.g.*, Fullerton, U.S. Patent No. 4,235,877). Vaccine preparation is generally described in, for example, M.F. Powell and M.J. Newman, eds., "Vaccine Design (the subunit and adjuvant approach)," Plenum Press (NY, 1995). Pharmaceutical compositions and vaccines within the scope of the present invention may also contain other compounds, which may be biologically active or inactive. For example, one or more immunogenic portions of other tumor antigens may be present, either incorporated into a fusion polypeptide or as a separate compound, within the composition or vaccine.

A pharmaceutical composition or vaccine may contain DNA encoding one or more of the polypeptides as described above, such that the polypeptide is generated *in situ*. As noted above, the DNA may be present within any of a variety of delivery systems known to those of ordinary skill in the art, including nucleic acid expression systems, bacteria and viral expression systems. Numerous gene delivery techniques are well known in the art, such as those described by Rolland, *Crit. Rev. Therap. Drug Carrier Systems* 15:143-198, 1998, and references cited therein. Appropriate nucleic acid expression systems contain the necessary DNA sequences for expression in the patient (such as a suitable promoter and terminating signal). Bacterial delivery systems involve the administration of a bacterium (such as *Bacillus-Calmette-Guerrin*) that expresses an immunogenic portion of the polypeptide on its cell surface or secretes such an epitope. In a preferred embodiment, the DNA may be introduced using a viral expression system (*e.g.*, vaccinia or other pox virus, retrovirus, or adenovirus), which may involve the use of a non-pathogenic (defective), replication competent virus. Suitable systems are disclosed, for example, in Fisher-Hoch et al., *Proc. Natl. Acad. Sci. USA* 86:317-321, 1989; Flexner et al., *Ann. N.Y.*

Acad. Sci. 569:86-103, 1989; Flexner et al., *Vaccine* 8:17-21, 1990; U.S. Patent Nos. 4,603,112, 4,769,330, and 5,017,487; WO 89/01973; U.S. Patent No. 4,777,127; GB 2,200,651; EP 0,345,242; WO 91/02805; Berkner, *Biotechniques* 6:616-627, 1988; Rosenfeld et al., *Science* 252:431-434, 1991; Kolls et al., *Proc. Natl. Acad. Sci. USA* 91:215-219, 1994; Kass-Eisler et al., *Proc. Natl. Acad. Sci. USA* 90:11498-11502, 1993; Guzman et al., *Circulation* 88:2838-2848, 1993; and Guzman et al., *Cir. Res.* 73:1202-1207, 1993. Techniques for incorporating DNA into such expression systems are well known to those of ordinary skill in the art. The DNA may also be "naked," as described, for example, in Ulmer et al., *Science* 259:1745-1749, 1993 and reviewed by Cohen, *Science* 259:1691-1692, 1993. The uptake of naked DNA may be increased by coating the DNA onto biodegradable beads, which are efficiently transported into the cells.

While any suitable carrier known to those of ordinary skill in the art may be employed in the pharmaceutical compositions of this invention, the type of carrier will vary depending on the mode of administration. Compositions of the present invention may be formulated for any appropriate manner of administration, including for example, topical, oral, nasal, intravenous, intracranial, intraperitoneal, subcutaneous or intramuscular administration. For parenteral administration, such as subcutaneous injection, the carrier preferably comprises water, saline, alcohol, a fat, a wax or a buffer. For oral administration, any of the above carriers or a solid carrier, such as mannitol, lactose, starch, magnesium stearate, sodium saccharine, talcum, cellulose, glucose, sucrose, and magnesium carbonate, may be employed. Biodegradable microspheres (e.g., polylactate polyglycolate) may also be employed as carriers for the pharmaceutical compositions of this invention. Suitable biodegradable microspheres are disclosed, for example, in U.S. Patent Nos. 4,897,268 and 5,075,109.

Such compositions may also comprise buffers (e.g., neutral buffered saline or phosphate buffered saline), carbohydrates (e.g., glucose, mannose, sucrose or dextrans), mannitol, proteins, polypeptides or amino acids such as glycine, antioxidants, chelating agents such as EDTA or glutathione, adjuvants (e.g., aluminum hydroxide) and/or preservatives. Alternatively, compositions of the present

invention may be formulated as a lyophilizate. Compounds may also be encapsulated within liposomes using well known technology.

Any of a variety of immunostimulants may be employed in the vaccines of this invention. For example, an adjuvant may be included. Most
5 adjuvants contain a substance designed to protect the antigen from rapid catabolism, such as aluminum hydroxide or mineral oil, and a stimulator of immune responses, such as lipid A, *Bordetella pertussis* or *Mycobacterium tuberculosis* derived proteins. Suitable adjuvants are commercially available as, for example, Freund's Incomplete Adjuvant and Complete Adjuvant (Difco Laboratories, Detroit, MI); Merck Adjuvant
10 65 (Merck and Company, Inc., Rahway, NJ); AS-2 (SmithKline Beecham, Philadelphia, PA); aluminum salts such as aluminum hydroxide gel (alum) or aluminum phosphate; salts of calcium, iron or zinc; an insoluble suspension of acylated tyrosine; acylated sugars; cationically or anionically derivatized polysaccharides; polyphosphazenes; biodegradable microspheres; monophosphoryl
15 lipid A and quil A. Cytokines, such as GM-CSF or interleukin-2, -7, or -12, may also be used as adjuvants.

Within the vaccines provided herein, the adjuvant composition is preferably designed to induce an immune response predominantly of the Th1 type. High levels of Th1-type cytokines (e.g., IFN- γ , TNF α , IL-2 and IL-12) tend to favor
20 the induction of cell mediated immune responses to an administered antigen. In contrast, high levels of Th2-type cytokines (e.g., IL-4, IL-5, IL-6 and IL-10) tend to favor the induction of humoral immune responses. Following application of a vaccine as provided herein, a patient will support an immune response that includes Th1- and Th2-type responses. Within a preferred embodiment, in which a response is
25 predominantly Th1-type, the level of Th1-type cytokines will increase to a greater extent than the level of Th2-type cytokines. The levels of these cytokines may be readily assessed using standard assays. For a review of the families of cytokines, see Mosmann and Coffman, *Ann. Rev. Immunol.* 7:145-173, 1989.

Preferred adjuvants for use in eliciting a predominantly Th1-type
30 response include, for example, a combination of monophosphoryl lipid A, preferably 3-de-O-acylated monophosphoryl lipid A (3D-MPL), together with an aluminum salt.

MPL adjuvants are available from Corixa Corp. (Seattle, WA) (*see* US Patent Nos. 4,436,727; 4,877,611; 4,866,034 and 4,912,094). CpG-containing oligonucleotides (in which the CpG dinucleotide is unmethylated) also induce a predominantly Th1 response. Such oligonucleotides are well known and are described, for example, in
5 WO 96/02555 and WO 99/33488. Immunostimulatory DNA sequences are also described, for example, by Sato et al., *Science* 273:352, 1996. Another preferred adjuvant is a saponin, preferably QS21 (Aquila Biopharmaceuticals Inc., Framingham, MA), which may be used alone or in combination with other adjuvants. For example, an enhanced system involves the combination of a monophosphoryl lipid A and
10 saponin derivative, such as the combination of QS21 and 3D-MPL as described in WO 94/00153, or a less reactogenic composition where the QS21 is quenched with cholesterol, as described in WO 96/33739. Other preferred formulations comprises an oil-in-water emulsion and tocopherol. A particularly potent adjuvant formulation involving QS21, 3D-MPL and tocopherol in an oil-in-water emulsion is described in
15 WO 95/17210.

Other preferred adjuvants include Montanide ISA 720 (Seppic, France), SAF (Chiron, California, United States), ISCOMS (CSL), MF-59 (Chiron), the SBAS series of adjuvants (*e.g.*, SBAS-2 or SBAS-4, available from SmithKline Beecham, Rixensart, Belgium), Detox (Ribi ImmunoChem Research Inc., Hamilton,
20 MT), RC-529 (Corixa, Seattle, WA) and Aminoalkyl glucosaminide 4-phosphates (AGPs).

Any vaccine provided herein may be prepared using well known methods that result in a combination of antigen, immune response enhancer and a suitable carrier or excipient. The compositions described herein may be administered
25 as part of a sustained release formulation (*i.e.*, a formulation such as a capsule, sponge or gel (composed of polysaccharides, for example) that effects a slow release of compound following administration). Such formulations may generally be prepared using well known technology (*see, e.g.* Coombes et al., *Vaccine* 14:1429-1438, 1996) and administered by, for example, oral, rectal or subcutaneous implantation, or by
30 implantation at the desired target site. Sustained-release formulations may contain a polypeptide, polynucleotide or antibody dispersed in a carrier matrix and/or contained

within a reservoir surrounded by a rate controlling membrane.

Carriers for use within such formulations are biocompatible, and may also be biodegradable; preferably the formulation provides a relatively constant level of active component release. Such carriers include microparticles of poly(lactide-co-glycolide), as well as polyacrylate, latex, starch, cellulose and dextran. Other delayed-release carriers include supramolecular biovectors, which comprise a non-liquid hydrophilic core (e.g., a cross-linked polysaccharide or oligosaccharide) and, optionally, an external layer comprising an amphiphilic compound, such as a phospholipid (*see e.g.*, U.S. Patent No. 5,151,254 and PCT applications WO 94/20078, WO/94/23701 and WO 96/06638). The amount of active compound contained within a sustained release formulation depends upon the site of implantation, the rate and expected duration of release and the nature of the condition to be treated or prevented.

Any of a variety of delivery vehicles may be employed within pharmaceutical compositions and vaccines to facilitate production of an antigen-specific immune response that targets tumor cells. Delivery vehicles include antigen presenting cells (APCs), such as dendritic cells, macrophages, B cells, monocytes and other cells that may be engineered to be efficient APCs. Such cells may, but need not, be genetically modified to increase the capacity for presenting the antigen, to improve activation and/or maintenance of the T cell response, to have anti-tumor effects *per se* and/or to be immunologically compatible with the receiver (*i.e.*, matched HLA haplotype). APCs may generally be isolated from any of a variety of biological fluids and organs, including tumor and peritumoral tissues, and may be autologous, allogeneic, syngeneic or xenogeneic cells.

Certain preferred embodiments of the present invention use dendritic cells or progenitors thereof as antigen-presenting cells. Dendritic cells are highly potent APCs (Banchereau and Steinman, *Nature* 392:245-251, 1998) and have been shown to be effective as a physiological adjuvant for eliciting prophylactic or therapeutic antitumor immunity (*see* Timmerman and Levy, *Ann. Rev. Med.* 50:507-529, 1999). In general, dendritic cells may be identified based on their typical shape (stellate *in situ*, with marked cytoplasmic processes (dendrites) visible *in vitro*), their

ability to take up, process and present antigens with high efficiency, and their ability to activate naïve T cell responses. Dendritic cells may, of course, be engineered to express specific cell-surface receptors or ligands that are not commonly found on dendritic cells *in vivo* or *ex vivo*, and such modified dendritic cells are contemplated
5 by the present invention. As an alternative to dendritic cells, secreted vesicles antigen-loaded dendritic cells (called exosomes) may be used within a vaccine (see Zitvogel et al., *Nature Med.* 4:594-600, 1998).

Dendritic cells and progenitors may be obtained from peripheral blood, bone marrow, tumor-infiltrating cells, peritumoral tissues-infiltrating cells, lymph
10 nodes, spleen, skin, umbilical cord blood or any other suitable tissue or fluid. For example, dendritic cells may be differentiated *ex vivo* by adding a combination of cytokines such as GM-CSF, IL-4, IL-13 and/or TNF α to cultures of monocytes harvested from peripheral blood. Alternatively, CD34 positive cells harvested from peripheral blood, umbilical cord blood or bone marrow may be differentiated into
15 dendritic cells by adding to the culture medium combinations of GM-CSF, IL-3, TNF α , CD40 ligand, LPS, flt3 ligand and/or other compound(s) that induce differentiation, maturation and proliferation of dendritic cells.

Dendritic cells are conveniently categorized as "immature" and "mature" cells, which allows a simple way to discriminate between two well
20 characterized phenotypes. However, this nomenclature should not be construed to exclude all possible intermediate stages of differentiation. Immature dendritic cells are characterized as APC with a high capacity for antigen uptake and processing, which correlates with the high expression of Fc γ receptor and mannose receptor. The mature phenotype is typically characterized by a lower expression of these markers,
25 but a high expression of cell surface molecules responsible for T cell activation such as class I and class II MHC, adhesion molecules (e.g., CD54 and CD11) and costimulatory molecules (e.g., CD40, CD80, CD86 and 4-1BB).

APCs may generally be transfected with a polynucleotide encoding a colon tumor protein (or portion or other variant thereof) such that the colon tumor
30 polypeptide, or an immunogenic portion thereof, is expressed on the cell surface. Such transfection may take place *ex vivo*, and a composition or vaccine comprising

such transfected cells may then be used for therapeutic purposes, as described herein. Alternatively, a gene delivery vehicle that targets a dendritic or other antigen presenting cell may be administered to a patient, resulting in transfection that occurs *in vivo*. *In vivo* and *ex vivo* transfection of dendritic cells, for example, may generally
5 be performed using any methods known in the art, such as those described in WO 97/24447, or the gene gun approach described by Mahvi et al., *Immunology and cell Biology* 75:456-460, 1997. Antigen loading of dendritic cells may be achieved by incubating dendritic cells or progenitor cells with the colon tumor polypeptide, DNA (naked or within a plasmid vector) or RNA; or with antigen-expressing recombinant
10 bacterium or viruses (e.g., vaccinia, fowlpox, adenovirus or lentivirus vectors). Prior to loading, the polypeptide may be covalently conjugated to an immunological partner that provides T cell help (e.g., a carrier molecule). Alternatively, a dendritic cell may be pulsed with a non-conjugated immunological partner, separately or in the presence of the polypeptide.

15 Vaccines and pharmaceutical compositions may be presented in unit-dose or multi-dose containers, such as sealed ampoules or vials. Such containers are preferably hermetically sealed to preserve sterility of the formulation until use. In general, formulations may be stored as suspensions, solutions or emulsions in oily or aqueous vehicles. Alternatively, a vaccine or pharmaceutical composition may be
20 stored in a freeze-dried condition requiring only the addition of a sterile liquid carrier immediately prior to use.

CANCER THERAPY

In further aspects of the present invention, the compositions described
25 herein may be used for immunotherapy of cancer, such as colon cancer. Within such methods, pharmaceutical compositions and vaccines are typically administered to a patient. As used herein, a "patient" refers to any warm-blooded animal, preferably a human. A patient may or may not be afflicted with cancer. Accordingly, the above pharmaceutical compositions and vaccines may be used to prevent the development of
30 a cancer or to treat a patient afflicted with a cancer. A cancer may be diagnosed using criteria generally accepted in the art, including the presence of a malignant tumor.

Pharmaceutical compositions and vaccines may be administered either prior to or following surgical removal of primary tumors and/or treatment such as administration of radiotherapy or conventional chemotherapeutic drugs.

Within certain embodiments, immunotherapy may be active
5 immunotherapy, in which treatment relies on the *in vivo* stimulation of the endogenous host immune system to react against tumors with the administration of immune response-modifying agents (such as polypeptides and polynucleotides disclosed herein).

Within other embodiments, immunotherapy may be passive
10 immunotherapy, in which treatment involves the delivery of agents with established tumor-immune reactivity (such as effector cells or antibodies) that can directly or indirectly mediate antitumor effects and does not necessarily depend on an intact host immune system. Examples of effector cells include T cells as discussed above, T lymphocytes (such as CD8⁺ cytotoxic T lymphocytes and CD4⁺ T-helper tumor-
15 infiltrating lymphocytes), killer cells (such as Natural Killer cells and lymphokine-activated killer cells), B cells and antigen-presenting cells (such as dendritic cells and macrophages) expressing a polypeptide provided herein. T cell receptors and antibody receptors specific for the polypeptides recited herein may be cloned, expressed and transferred into other vectors or effector cells for adoptive
20 immunotherapy. The polypeptides provided herein may also be used to generate antibodies or anti-idiotypic antibodies (as described above and in U.S. Patent No. 4,918,164) for passive immunotherapy.

Effector cells may generally be obtained in sufficient quantities for adoptive immunotherapy by growth *in vitro*, as described herein. Culture conditions
25 for expanding single antigen-specific effector cells to several billion in number with retention of antigen recognition *in vivo* are well known in the art. Such *in vitro* culture conditions typically use intermittent stimulation with antigen, often in the presence of cytokines (such as IL-2) and non-dividing feeder cells. As noted above, immunoreactive polypeptides as provided herein may be used to rapidly expand
30 antigen-specific T cell cultures in order to generate a sufficient number of cells for immunotherapy. In particular, antigen-presenting cells, such as dendritic,

macrophage, monocyte, fibroblast and/or B cells, may be pulsed with immunoreactive polypeptides or transfected with one or more polynucleotides using standard techniques well known in the art. For example, antigen-presenting cells can be transfected with a polynucleotide having a promoter appropriate for increasing expression in a recombinant virus or other expression system. Cultured effector cells for use in therapy must be able to grow and distribute widely, and to survive long term *in vivo*. Studies have shown that cultured effector cells can be induced to grow in vivo and to survive long term in substantial numbers by repeated stimulation with antigen supplemented with IL-2 (*see, for example, Cheever et al., Immunological Reviews* 157:177, 1997).

Alternatively, a vector expressing a polypeptide recited herein may be introduced into antigen presenting cells taken from a patient and clonally propagated *ex vivo* for transplant back into the same patient. Transfected cells may be reintroduced into the patient using any means known in the art, preferably in sterile form by intravenous, intracavitary, intraperitoneal or intratumor administration.

Routes and frequency of administration of the therapeutic compositions disclosed herein, as well as dosage, will vary from individual to individual, and may be readily established using standard techniques. In general, the pharmaceutical compositions and vaccines may be administered by injection (*e.g.*, intracutaneous, intramuscular, intravenous or subcutaneous), intranasally (*e.g.*, by aspiration) or orally. Preferably, between 1 and 10 doses may be administered over a 52 week period. Preferably, 6 doses are administered, at intervals of 1 month, and booster vaccinations may be given periodically thereafter. Alternate protocols may be appropriate for individual patients. A suitable dose is an amount of a compound that, when administered as described above, is capable of promoting an anti-tumor immune response, and is at least 10-50% above the basal (*i.e.*, untreated) level. Such response can be monitored by measuring the anti-tumor antibodies in a patient or by vaccine-dependent generation of cytolytic effector cells capable of killing the patient's tumor cells *in vitro*. Such vaccines should also be capable of causing an immune response that leads to an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial or longer disease-free survival) in vaccinated patients as compared to non-

vaccinated patients. In general, for pharmaceutical compositions and vaccines comprising one or more polypeptides, the amount of each polypeptide present in a dose ranges from about 25 µg to 5 mg per kg of host. Suitable dose sizes will vary with the size of the patient, but will typically range from about 0.1 mL to about 5 mL.

5 In general, an appropriate dosage and treatment regimen provides the active compound(s) in an amount sufficient to provide therapeutic and/or prophylactic benefit. Such a response can be monitored by establishing an improved clinical outcome (e.g., more frequent remissions, complete or partial, or longer disease-free survival) in treated patients as compared to non-treated patients. Increases in
10 preexisting immune responses to a colon tumor protein generally correlate with an improved clinical outcome. Such immune responses may generally be evaluated using standard proliferation, cytotoxicity or cytokine assays, which may be performed using samples obtained from a patient before and after treatment.

15 METHODS FOR DETECTING CANCER

In general, a cancer may be detected in a patient based on the presence of one or more colon tumor proteins and/or polynucleotides encoding such proteins in a biological sample (for example, blood, sera, sputum, urine and/or tumor biopsies) obtained from the patient. In other words, such proteins may be used as markers to
20 indicate the presence or absence of a cancer such as colon cancer. In addition, such proteins may be useful for the detection of other cancers. The binding agents provided herein generally permit detection of the level of antigen that binds to the agent in the biological sample. Polynucleotide primers and probes may be used to detect the level of mRNA encoding a tumor protein, which is also indicative of the
25 presence or absence of a cancer. In general, a colon tumor sequence should be present at a level that is at least three fold higher in tumor tissue than in normal tissue

There are a variety of assay formats known to those of ordinary skill in the art for using a binding agent to detect polypeptide markers in a sample. See, e.g., Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory,
30 1988. In general, the presence or absence of a cancer in a patient may be determined by (a) contacting a biological sample obtained from a patient with a binding agent; (b)

detecting in the sample a level of polypeptide that binds to the binding agent; and (c) comparing the level of polypeptide with a predetermined cut-off value.

In a preferred embodiment, the assay involves the use of binding agent immobilized on a solid support to bind to and remove the polypeptide from the remainder of the sample. The bound polypeptide may then be detected using a detection reagent that contains a reporter group and specifically binds to the binding agent/polypeptide complex. Such detection reagents may comprise, for example, a binding agent that specifically binds to the polypeptide or an antibody or other agent that specifically binds to the binding agent, such as an anti-immunoglobulin, protein G, protein A or a lectin. Alternatively, a competitive assay may be utilized, in which a polypeptide is labeled with a reporter group and allowed to bind to the immobilized binding agent after incubation of the binding agent with the sample. The extent to which components of the sample inhibit the binding of the labeled polypeptide to the binding agent is indicative of the reactivity of the sample with the immobilized binding agent. Suitable polypeptides for use within such assays include full length colon tumor proteins and portions thereof to which the binding agent binds, as described above.

The solid support may be any material known to those of ordinary skill in the art to which the tumor protein may be attached. For example, the solid support may be a test well in a microtiter plate or a nitrocellulose or other suitable membrane. Alternatively, the support may be a bead or disc, such as glass, fiberglass, latex or a plastic material such as polystyrene or polyvinylchloride. The support may also be a magnetic particle or a fiber optic sensor, such as those disclosed, for example, in U.S. Patent No. 5,359,681. The binding agent may be immobilized on the solid support using a variety of techniques known to those of skill in the art, which are amply described in the patent and scientific literature. In the context of the present invention, the term "immobilization" refers to both noncovalent association, such as adsorption, and covalent attachment (which may be a direct linkage between the agent and functional groups on the support or may be a linkage by way of a cross-linking agent). Immobilization by adsorption to a well in a microtiter plate or to a membrane is preferred. In such cases, adsorption may be achieved by contacting the binding

agent, in a suitable buffer, with the solid support for a suitable amount of time. The contact time varies with temperature, but is typically between about 1 hour and about 1 day. In general, contacting a well of a plastic microtiter plate (such as polystyrene or polyvinylchloride) with an amount of binding agent ranging from about 10 ng to about 10 µg, and preferably about 100 ng to about 1 µg, is sufficient to immobilize an adequate amount of binding agent.

Covalent attachment of binding agent to a solid support may generally be achieved by first reacting the support with a bifunctional reagent that will react with both the support and a functional group, such as a hydroxyl or amino group, on the binding agent. For example, the binding agent may be covalently attached to supports having an appropriate polymer coating using benzoquinone or by condensation of an aldehyde group on the support with an amine and an active hydrogen on the binding partner (*see, e.g., Pierce Immunotechnology Catalog and Handbook, 1991, at A12-A13*).

In certain embodiments, the assay is a two-antibody sandwich assay. This assay may be performed by first contacting an antibody that has been immobilized on a solid support, commonly the well of a microtiter plate, with the sample, such that polypeptides within the sample are allowed to bind to the immobilized antibody. Unbound sample is then removed from the immobilized polypeptide-antibody complexes and a detection reagent (preferably a second antibody capable of binding to a different site on the polypeptide) containing a reporter group is added. The amount of detection reagent that remains bound to the solid support is then determined using a method appropriate for the specific reporter group.

More specifically, once the antibody is immobilized on the support as described above, the remaining protein binding sites on the support are typically blocked. Any suitable blocking agent known to those of ordinary skill in the art, such as bovine serum albumin or Tween 20™ (Sigma Chemical Co., St. Louis, MO). The immobilized antibody is then incubated with the sample, and polypeptide is allowed to bind to the antibody. The sample may be diluted with a suitable diluent, such as phosphate-buffered saline (PBS) prior to incubation. In general, an appropriate contact time (*i.e., incubation time*) is a period of time that is sufficient to detect the

presence of polypeptide within a sample obtained from an individual with colon cancer. Preferably, the contact time is sufficient to achieve a level of binding that is at least about 95% of that achieved at equilibrium between bound and unbound polypeptide. Those of ordinary skill in the art will recognize that the time necessary to achieve equilibrium may be readily determined by assaying the level of binding that occurs over a period of time. At room temperature, an incubation time of about 30 minutes is generally sufficient.

Unbound sample may then be removed by washing the solid support with an appropriate buffer, such as PBS containing 0.1% Tween 20™. The second antibody, which contains a reporter group, may then be added to the solid support. Preferred reporter groups include those groups recited above.

The detection reagent is then incubated with the immobilized antibody-polypeptide complex for an amount of time sufficient to detect the bound polypeptide. An appropriate amount of time may generally be determined by assaying the level of binding that occurs over a period of time. Unbound detection reagent is then removed and bound detection reagent is detected using the reporter group. The method employed for detecting the reporter group depends upon the nature of the reporter group. For radioactive groups, scintillation counting or autoradiographic methods are generally appropriate. Spectroscopic methods may be used to detect dyes, luminescent groups and fluorescent groups. Biotin may be detected using avidin, coupled to a different reporter group (commonly a radioactive or fluorescent group or an enzyme). Enzyme reporter groups may generally be detected by the addition of substrate (generally for a specific period of time), followed by spectroscopic or other analysis of the reaction products.

To determine the presence or absence of a cancer, such as colon cancer, the signal detected from the reporter group that remains bound to the solid support is generally compared to a signal that corresponds to a predetermined cut-off value. In one preferred embodiment, the cut-off value for the detection of a cancer is the average mean signal obtained when the immobilized antibody is incubated with samples from patients without the cancer. In general, a sample generating a signal that is three standard deviations above the predetermined cut-off value is considered

positive for the cancer. In an alternate preferred embodiment, the cut-off value is determined using a Receiver Operator Curve, according to the method of Sackett et al., *Clinical Epidemiology: A Basic Science for Clinical Medicine*, Little Brown and Co., 1985, p. 106-7. Briefly, in this embodiment, the cut-off value may be determined
5 from a plot of pairs of true positive rates (i.e., sensitivity) and false positive rates (100%-specificity) that correspond to each possible cut-off value for the diagnostic test result. The cut-off value on the plot that is the closest to the upper left-hand corner (i.e., the value that encloses the largest area) is the most accurate cut-off value, and a sample generating a signal that is higher than the cut-off value determined by
10 this method may be considered positive. Alternatively, the cut-off value may be shifted to the left along the plot, to minimize the false positive rate, or to the right, to minimize the false negative rate. In general, a sample generating a signal that is higher than the cut-off value determined by this method is considered positive for a cancer.

15 In a related embodiment, the assay is performed in a flow-through or strip test format, wherein the binding agent is immobilized on a membrane, such as nitrocellulose. In the flow-through test, polypeptides within the sample bind to the immobilized binding agent as the sample passes through the membrane. A second, labeled binding agent then binds to the binding agent-polypeptide complex as a
20 solution containing the second binding agent flows through the membrane. The detection of bound second binding agent may then be performed as described above. In the strip test format, one end of the membrane to which binding agent is bound is immersed in a solution containing the sample. The sample migrates along the membrane through a region containing second binding agent and to the area of
25 immobilized binding agent. Concentration of second binding agent at the area of immobilized antibody indicates the presence of a cancer. Typically, the concentration of second binding agent at that site generates a pattern, such as a line, that can be read visually. The absence of such a pattern indicates a negative result. In general, the amount of binding agent immobilized on the membrane is selected to generate a
30 visually discernible pattern when the biological sample contains a level of polypeptide that would be sufficient to generate a positive signal in the two-antibody sandwich

assay, in the format discussed above. Preferred binding agents for use in such assays are antibodies and antigen-binding fragments thereof. Preferably, the amount of antibody immobilized on the membrane ranges from about 25 ng to about 1 μ g, and more preferably from about 50 ng to about 500 ng. Such tests can typically be performed with a very small amount of biological sample.

Of course, numerous other assay protocols exist that are suitable for use with the tumor proteins or binding agents of the present invention. The above descriptions are intended to be exemplary only. For example, it will be apparent to those of ordinary skill in the art that the above protocols may be readily modified to use colon tumor polypeptides to detect antibodies that bind to such polypeptides in a biological sample. The detection of such colon tumor protein specific antibodies may correlate with the presence of a cancer.

A cancer may also, or alternatively, be detected based on the presence of T cells that specifically react with a colon tumor protein in a biological sample. Within certain methods, a biological sample comprising CD4⁺ and/or CD8⁺ T cells isolated from a patient is incubated with a colon tumor polypeptide, a polynucleotide encoding such a polypeptide and/or an APC that expresses at least an immunogenic portion of such a polypeptide, and the presence or absence of specific activation of the T cells is detected. Suitable biological samples include, but are not limited to, isolated T cells. For example, T cells may be isolated from a patient by routine techniques (such as by Ficoll/Hypaque density gradient centrifugation of peripheral blood lymphocytes). T cells may be incubated *in vitro* for 2-9 days (typically 4 days) at 37°C with one or more representative polypeptides (*e.g.*, 5 - 25 μ g/ml). It may be desirable to incubate another aliquot of a T cell sample in the absence of colon tumor polypeptide to serve as a control. For CD4⁺ T cells, activation is preferably detected by evaluating proliferation of the T cells. For CD8⁺ T cells, activation is preferably detected by evaluating cytolytic activity. A level of proliferation that is at least two fold greater and/or a level of cytolytic activity that is at least 20% greater than in disease-free patients indicates the presence of a cancer in the patient.

As noted above, a cancer may also, or alternatively, be detected based on the level of mRNA encoding a colon tumor protein in a biological sample. For

example, at least two oligonucleotide primers may be employed in a polymerase chain reaction (PCR) based assay to amplify a portion of a colon tumor cDNA derived from a biological sample, wherein at least one of the oligonucleotide primers is specific for (*i.e.*, hybridizes to) a polynucleotide encoding the colon tumor protein. The amplified
5 cDNA is then separated and detected using techniques well known in the art, such as gel electrophoresis. Similarly, oligonucleotide probes that specifically hybridize to a polynucleotide encoding a colon tumor protein may be used in a hybridization assay to detect the presence of polynucleotide encoding the tumor protein in a biological sample.

10 To permit hybridization under assay conditions, oligonucleotide primers and probes should comprise an oligonucleotide sequence that has at least about 60%, preferably at least about 75% and more preferably at least about 90%, identity to a portion of a polynucleotide encoding a colon tumor protein that is at least 10 nucleotides, and preferably at least 20 nucleotides, in length. Preferably,
15 oligonucleotide primers and/or probes will hybridize to a polynucleotide encoding a polypeptide disclosed herein under moderately stringent conditions, as defined above. Oligonucleotide primers and/or probes which may be usefully employed in the diagnostic methods described herein preferably are at least 10-40 nucleotides in length. In a preferred embodiment, the oligonucleotide primers comprise at least 10
20 contiguous nucleotides, more preferably at least 15 contiguous nucleotides, of a DNA molecule having a sequence recited in SEQ ID NO: 1-121, 123-197, 205-630, 632-684, 686, 690-691, and 694-1081. Techniques for both PCR based assays and hybridization assays are well known in the art (*see*, for example, Mullis et al., *Cold Spring Harbor Symp. Quant. Biol.*, 51:263, 1987; Erlich ed., *PCR Technology*,
25 Stockton Press, NY, 1989).

One preferred assay employs RT-PCR, in which PCR is applied in conjunction with reverse transcription. Typically, RNA is extracted from a biological sample, such as biopsy tissue, and is reverse transcribed to produce cDNA molecules. PCR amplification using at least one specific primer generates a cDNA molecule,
30 which may be separated and visualized using, for example, gel electrophoresis. Amplification may be performed on biological samples taken from a test patient and

from an individual who is not afflicted with a cancer. The amplification reaction may be performed on several dilutions of cDNA spanning two orders of magnitude. A two-fold or greater increase in expression in several dilutions of the test patient sample as compared to the same dilutions of the non-cancerous sample is typically
5 considered positive.

In another embodiment, the disclosed compositions may be used as markers for the progression of cancer. In this embodiment, assays as described above for the diagnosis of a cancer may be performed over time, and the change in the level of reactive polypeptide(s) or polynucleotide evaluated. For example, the assays may
10 be performed every 24-72 hours for a period of 6 months to 1 year, and thereafter performed as needed. In general, a cancer is progressing in those patients in whom the level of polypeptide or polynucleotide detected increases over time. In contrast, the cancer is not progressing when the level of reactive polypeptide or polynucleotide either remains constant or decreases with time.

15 Certain *in vivo* diagnostic assays may be performed directly on a tumor. One such assay involves contacting tumor cells with a binding agent. The bound binding agent may then be detected directly or indirectly via a reporter group. Such binding agents may also be used in histological applications. Alternatively, polynucleotide probes may be used within such applications.

20 As noted above, to improve sensitivity, multiple colon tumor protein markers may be assayed within a given sample. It will be apparent that binding agents specific for different proteins provided herein may be combined within a single assay. Further, multiple primers or probes may be used concurrently. The selection of tumor protein markers may be based on routine experiments to determine combinations that
25 results in optimal sensitivity. In addition, or alternatively, assays for tumor proteins provided herein may be combined with assays for other known tumor antigens.

DIAGNOSTIC KITS

The present invention further provides kits for use within any of the
30 above diagnostic methods. Such kits typically comprise two or more components necessary for performing a diagnostic assay. Components may be compounds,

reagents, containers and/or equipment. For example, one container within a kit may contain a monoclonal antibody or fragment thereof that specifically binds to a colon tumor protein. Such antibodies or fragments may be provided attached to a support material, as described above. One or more additional containers may enclose
5 elements, such as reagents or buffers, to be used in the assay. Such kits may also, or alternatively, contain a detection reagent as described above that contains a reporter group suitable for direct or indirect detection of antibody binding.

Alternatively, a kit may be designed to detect the level of mRNA encoding a colon tumor protein in a biological sample. Such kits generally comprise
10 at least one oligonucleotide probe or primer, as described above, that hybridizes to a polynucleotide encoding a colon tumor protein. Such an oligonucleotide may be used, for example, within a PCR or hybridization assay. Additional components that may be present within such kits include a second oligonucleotide and/or a diagnostic reagent or container to facilitate the detection of a polynucleotide encoding a colon
15 tumor protein.

The following Examples are offered by way of illustration and not by way of limitation.

EXAMPLES

Example 1

ISOLATION AND CHARACTERIZATION OF COLON TUMOR POLYPEPTIDES
5 BY PCR-BASED SUBTRACTION AND MICROARRAY ANALYSIS

A cDNA library was constructed in the PCR2.1 vector (Invitrogen, Carlsbad, CA) by subtracting a pool of three colon tumors with a pool of normal colon, spleen, brain, liver, kidney, lung, stomach and small intestine using PCR subtraction methodologies (Clontech, Palo Alto, CA). The subtraction was performed using a PCR-based protocol, which was modified to generate larger fragments. Within this protocol, tester and driver double stranded cDNA were separately digested with five restriction enzymes that recognize six-nucleotide restriction sites (MluI, MscI, PvuII, SalI and StuI). This digestion resulted in an average cDNA size of 600 bp, rather than the average size of 300 bp that results from digestion with RsaI according to the Clontech protocol. This modification did not affect the subtraction efficiency. Two tester populations were then created with different adapters, and the driver library remained without adapters.

The tester and driver libraries were then hybridized using excess driver cDNA. In the first hybridization step, driver was separately hybridized with each of the two tester cDNA populations. This resulted in populations of (a) unhybridized tester cDNAs, (b) tester cDNAs hybridized to other tester cDNAs, (c) tester cDNAs hybridized to driver cDNAs, and (d) unhybridized driver cDNAs. The two separate hybridization reactions were then combined, and rehybridized in the presence of additional denatured driver cDNA. Following this second hybridization, in addition to populations (a) through (d), a fifth population (e) was generated in which tester cDNA with one adapter hybridized to tester cDNA with the second adapter. Accordingly, the second hybridization step resulted in enrichment of differentially expressed sequences which could be used as templates for PCR amplification with adaptor-specific primers.

The ends were then filled in, and PCR amplification was performed using adaptor-specific primers. Only population (e), which contained tester cDNA that did not hybridize to driver cDNA, was amplified exponentially. A second PCR amplification step was then performed, to reduce background and further enrich
5 differentially expressed sequences.

This PCR-based subtraction technique normalizes differentially expressed cDNAs so that rare transcripts that are over-expressed in colon tumor tissue may be recoverable. Such transcripts would be difficult to recover by traditional subtraction methods.

10 To characterize the complexity and redundancy of the subtracted library, 96 clones were randomly picked and 65 were sequenced, as previously described. These sequences were further characterized by comparison with the most recent Genbank database (April, 1998) to determine their degree of novelty. No significant homologies were found to 21 of these clones, hereinafter referred to as
15 11092, 11093, 11096, 11098, 11103, 11174, 11108, 11112, 11115, 11117, 11118, 11134, 11151, 11154, 11158, 11168, 11172, 11175, 11184, 11185 and 11187. The determined cDNA sequences for these clones are provided in SEQ ID NO: 48, 49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101 and 109-111, respectively.

Two-thousand clones from the above mentioned cDNA subtraction
20 library were randomly picked and submitted to a round of PCR amplification. Briefly, 0.5 μ l of glycerol stock solution was added to 99.5 μ l of pcr MIX (80 μ l H₂O, 10 μ l 10X PCR Buffer, 6 μ l 25 mM MgCl₂, 1 μ l 10 mM dNTPs, 1 μ l 100 mM M13 forward primer (CACGACGTTGTAAAACGACGG), 1 μ l 100 mM M13 reverse primer (CACAGGAAACAGCTATGACC), and 0.5 μ l 5 u/ml Taq polymerase (primers
25 provided by (Operon Technologies, Alameda, CA). The PCR amplification was run for thirty cycles under the following conditions: 95°C for 5 min., 92°C for 30 sec., 57°C for 40 sec., 75°C for 2 min. and 75°C for 5 minutes.

mRNA expression levels for representative clones were determined using microarray technology (Synteni, Palo Alto, CA) in colon tumor tissues (n=25),
30 normal colon tissues (n=6), kidney, lung, liver, brain, heart, esophagus, small intestine, stomach, pancreas, adrenal gland, salivary gland, resting PBMC, activated

PBMC, bone marrow, dendritic cells, spinal cord, blood vessels, skeletal muscle, skin, breast and fetal tissues. The number of tissue samples tested in each case was one (n=1), except where specifically noted above; additionally, all the above-mentioned tissues were derived from humans. The PCR amplification products were dotted onto slides in an array format, with each product occupying a unique location in the array. mRNA was extracted from the tissue sample to be tested, and fluorescent-labeled cDNA probes were generated by reverse transcription according to the protocol provided by Synteni. The microarrays were probed with the labeled cDNA probes, the slides scanned, and fluorescence intensity was measured. This intensity correlates with the hybridization intensity.

One hundred and forty nine clones showed two or more fold over-expression in the colon tumor probe group as compared to the normal tissue probe group. These cDNA clones were further characterized by DNA sequencing with a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A and/or Model 377 (Foster City, CA). These sequences were compared to known sequences in the most recent GenBank database. No significant homologies to human gene sequences were found in forty nine of these clones, represented by the following sixteen cDNA consensus sequences: SEQ ID NO: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46 and 47, hereinafter referred to as Contig 2, 8, 13, 14, 20, 23, 29, 31, 35, 32, 36, 38, 41, 42, 50 and 51, respectively). Contig 29 (SEQ ID NO: 30) was found to be a Rat GSK-3- β -interacting protein Axil homolog. Also, Contigs 31 and 35 (SEQ ID NO: 32 and 33, respectively) were found to be a Mus musculus GOB-4 homolog. The determined cDNA sequences of SEQ ID NO: 1, 3-7, 9-14, 17-21, 23, 25-29, 31, 35, 37, 39, 42-45, 50, 51, 53, 55-58, 61-64, 70-78, 80-88, 91, 92, 94-98, 102-108 and 112 were found to show some homology to previously identified genes sequences.

Microarray analysis demonstrated Contig 2 (SEQ ID NO: 2) showed over-expression in 34% of colon tumors tested, as well as increased expression in normal pancreatic tissue, with no over-expression in normal colon tissues. Upon further analysis, Contigs 2, 8 and 23 were found to share homology to the known gene GW112. Contigs 4, 5, 9 and 52 showed homology to carcinoembryonic antigen (SEQ ID NO: 3, 4, 5 and 6, respectively). A representative sampling of these fragments

showed over-expression in 85% of colon tumors, with over-expression in normal bone marrow and 3/6 normal colon tissues. Contig 6 (SEQ ID NO: 7), showing homology to the known gene sequence for villin, and was over-expressed in about half of all colon tumors tested, with a limited degree of low level over-expression in normal colon. Contig 12 (SEQ ID NO: 14), showing homology to Chromosome 17, clone hRPC.1171_I_10, also referred to as C798P, was over-expressed in approximately 70% of colon tumors tested, with low over-expression in 1/6 normal colon samples. Contig 14, also referred to as 14261 (SEQ ID NO: 16), showing no significant homology to any known gene, showed over-expression in 44% of colon tumors tested, with low level expression in half of normal colon tissues, as well as small intestine and pancreatic tissue. Contig 18 (SEQ ID NO: 21), showing homology to the known gene for L1-cadherin, showed over-expression in approximately half of colon tumors and low level over-expression in 3/6 normal colon tissues tested. Contig 22 (SEQ ID NO: 23), showing homology to Bumetanide-sensitive Na-K-Cl cotransporter was over-expressed in 70% of colon tumors and no over-expression in all normal tissues tested. Contig 25 (SEQ ID NO: 25), showing homology to macrophage inflammatory protein-3 α , was over-expressed in over 40% of colon tumors and in activated PBMC. Contigs 26 and 48 (SEQ ID NOS: 25 and 26), showing homology to the sequence for laminin, was over-expressed in 48% of colon tumors and with low over-expression in stomach tissue. Contig 28 (SEQ ID NO: 29), showing homology to the known gene sequence for Chromosome 16 BAC clone CIT987SK-A-363E6, was over-expressed in 33% of colon tumors tested with normal stomach and 2/6 normal colon tissues showing low level over-expression. Contigs 29, 31 and 35 (SEQ ID NOS: 30, 32 and 33, respectively), also referred to as C751P, an unknown sequence showing limited and partial homology to Rat GSK-3 β -interacting protein Axil homolog and Mus musculus GOB-4 homolog, was over-expressed in 74% of colon tumors and no over-expression in all normal tissues tested. Contig 34 (SEQ ID NO: 35), showing homology to the known sequence for desmoglein 2, was over-expressed in 56% of colon tumors and showed low level over-expression in 1/6 normal colon tissues. Contig 36 (SEQ ID NO: 36), an unknown sequence also referred to as C793P, showed over-expression in 30% of colon tumor tissues tested. Contig 37 and 14287.2 (SEQ

ID NOS: 37 and 116), an unknown sequence, but with limited (89%) homology to the known sequence for putative transmembrane protein was over-expressed in 70% of colon tumors, as well as in normal lung tissue and 3/6 normal colon tissues tested. Contig 38, also referred to as C796P and 14219 (SEQ ID NO: 38), showing no significant homology to any known gene, was over-expressed in 38% in colon tumors and no elevated over-expression in any normal tissues. Contig 41 (SEQ ID NO: 40), also referred to as C799P and 14308, an unknown sequence showing no significant homology to any known gene, was over-expressed in 22% of colon tumors. Contig 42, (SEQ ID NO: 41), also referred to as C794P and 14309, an unknown sequence with no significant homology to any known gene, was over-expressed in 63% of colon tumors tested, as well as in 3/6 normal colon tissues. Contig 43 (SEQ ID NO: 42), showing homology to the known sequence for Chromosome 1 specific transcript KIAA0487 was over-expressed in 85% of colon tumors tested and in normal lung and 4/6 normal colon tissues. Contig 49 (SEQ ID NO: 45), showing homology to the known sequence for pump-1, was over-expressed in 44% of colon tumors and no over-expression in all normal tissues tested. Contig 50 (SEQ ID NO: 46), also referred to as C792P and 18323, showing no significant homology to any known gene, was over-expressed in 33% of colon tumors with no detectable over-expression in any normal tissues tested. Contig 51 (SEQ ID NO: 47), also referred to as C795P and 14317 was over-expressed in 11% of colon tumors.

Additional microarray analysis yielded seven clones showing two or more fold over-expression in the colon tumor probe group as compared to the normal tissue probe group. Three of these clones demonstrated particularly good colon tumor specificity, and are represented by SEQ ID NO: 115, 116 and 120. Specifically, SEQ ID NO: 115, referred to as C791P or 14235, which shows homology to the known gene sequence for *H. sapiens* chromosome 21 derived BAC containing *ets-2* gene, was over-expressed in 89% of colon tumors tested and in 5/6 normal colon tissues, as well as over-expressed at low levels in normal lung and activated PBMC. Microarray analysis for SEQ ID NO: 116 is discussed above. SEQ ID NO: 120, referred to as 14295, showing homology to the known gene sequence for secreted cement gland protein XAG-2 homolog, was over-expressed in 70% of colon tumors and in 5/6

normal colon tissues, as well as low level over-expression in normal small intestine, stomach and lung. All clones showing over-expression in colon tumor were sequenced and these sequences compared to the most recent Genbank database (February 12, 1999). Of the seven clones, three contained sequences that did not
5 share significant homology to any known gene sequences, represented by SEQ ID NO: 116, 117 and 119. To the best of the inventors' knowledge, none of these sequences have been previously shown to be present in colon. The determined cDNA sequences of the remaining clones (SEQ ID NO: 113-115 and 120) were found to show some homology to previously identified genes.

10 Further analysis identified a clone which was recovered several times by PCR subtraction and by expression screening using a mouse anti-scid antiserum. The determined full length cDNA sequence for this clone is provided in SEQ ID NO: 121, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 122. This clone is homologous with the known gene Beta IG-H3, as disclosed in
15 U.S. Patent No. 5,444,164. Microarray analysis demonstrated this clone to be over-expressed in 75 to 80% of colon tumors tested (n=27), with no over-expression in normal colon samples (n=6), but with some low level over-expression in other normal tissues tested.

Further analysis of the PCR-subtraction library described above led to
20 the isolation of longer cDNA sequences for the clones of SEQ ID NO: 30, 115, 46, 118, 41, 47, 38, 113, 14 and 40 (known as C751P, C791P, C792P, C793P, C794P, C795P, C796P, C797P, C798P and C799P, respectively). These determined cDNA sequences are provided in SEQ ID NO: 123-132, respectively. Additional sequences for the clones C794P and C799P are shown in SEQ ID NO:683 and 684, respectively,
25 and the predicted amino acid sequences are shown in SEQ ID NO:685 and 686, respectively. Still further sequences for the clones C794P and C799P are shown in SEQ ID NO: 691 and 690, respectively, and to the predicted amino acid sequence as shown in SEQ ID NO: 693 and 692, respectively.

Using PCR subtraction methodology described above with minor
30 modifications, transcripts from a pool of three moderately differentiated colon adenocarcinoma samples were subtracted with a set of transcripts from normal brain,

pancreas, bone marrow, liver, heart, lung, stomach and small intestine. Modifications of the above protocol were included at the cDNA digestion steps and in the tester to drive hybridization ratios. In a first subtraction, the restriction enzymes PvuII, DraI, MscI and StuI were used to digest cDNAs, and the tester to driver ratio was 1:40, as suggested by Clontech. In a second subtraction, DraI, MscI and StuI were used for cDNA digestion and a tester to driver ratio of 1:76 was used. Following the PCR amplification steps, the cDNAs were clones into pCR2.1 plasmid vector. The determined cDNA sequences of 167 isolated clones are provided in SEQ ID NO: 205-371. These sequences were compared to sequences in the public databases as described above. The sequences of SEQ ID NO: 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369 and 371 were found to show some homology to previously identified ESTs. The remaining sequences were found to show some homology to previously identified genes.

Using the PCR subtraction technology described above, a cDNA library from a pool of primary colon tumors was subtracted with a cDNA library prepared from normal tissues, including brain, bone marrow, kidney, heart, lung, liver, pancreas, small intestine, stomach and trachea. The determined cDNA sequences for 90 clones isolated in this subtraction are provided in SEQ ID NO: 372-461. Comparison of these sequences with those in the public databases as described above, revealed no homologies to the sequences of SEQ ID NO: 426, 445 and 453. The sequences of SEQ ID NO: 372-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455 and 457-461 showed some homology to previously identified genes, while the sequences of SEQ ID NO: 379, 405, 407, 408, 418, 424, 430-432, 437, 442, 444, 452 and 456 showed some homology to previously isolated ESTs.

Using the PCR subtraction methodology described above, a cDNA library prepared from a pool of metastatic colon tumors was subtracted with cDNA from a pool of normal tissues, namely brain, heart, lung, lymph nodes, PBMC,

pancreas, small intestine and stomach. The determined cDNA sequences for 82 clones isolated from the subtracted library are provided in SEQ ID NO: 487-568 (referred to as contigs 1-56 and 58-83, respectively). The sequences of SEQ ID NO: 487, 489, 490, 493-496, 499, 501-509, 511-518, 520-526, 529-542, 544, 546, 548-
5 552, 554, 555, 557, 558, 560, 562, 563, 566 and 567 showed some homology to previously identified gene sequences. The sequences of SEQ ID NO: 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 559, 564, 564 and 568 showed some homology to previously isolated ESTs.

10

Example 2

ISOLATION OF TUMOR POLYPEPTIDES
USING SCID MOUSE-PASSAGED TUMOR RNA

Human colon tumor antigens were obtained using SCID mouse
15 passaged colon tumor RNA as follows. Human colon tumor was implanted in SCID mice and harvested, as described in Patent Application Serial No. 08/556,659 filed 11/13/95, U.S. Patent No. 5,986,170. First strand cDNA was synthesized from poly A+ RNA from three SCID mouse-passaged colon tumors using a Lambda ZAP Express cDNA synthesis kit (Stratagene). The reactions were pooled and digested
20 with RNase A, T1 and H to cleave the RNA and then treated with NaOH to degrade the RNA. The resulting cDNA was annealed with biotinylated (Vector Labs, Inc., Burlingame, CA) cDNA from a normal resting PBMC plasmid library (constructed from Superscript plasmid System, Gibco BRL), and subtracted with streptavidin by phenol/chloroform extraction. Second strand cDNA was synthesized from the
25 subtracted first strand cDNA and digested with S1 nuclease (Gibco BRL). The cDNA was blunted with Pfu polymerase and EcoRI adaptors (Stratagene) were ligated to the ends. The cDNA was phosphorylated with T4 polynucleotide kinase, digested with restriction endonuclease XhoI, and size selected with Sephacryl S-400 (Sigma). Fractions were pooled, ligated to Lambda ZAP Express arms (Stratagene) and
30 packaged with Gigapack Gold III extract (Stratagene). Random plaques were picked,

phagemid was excised, transformed into XL0LR cells (Stratagene) and resulting plasmid DNA (Qiagen Inc., Valencia, CA) was sequenced as described above.

The determined cDNA sequences for 17 clones isolated as described above are provided in SEQ ID NO: 133-151, wherein 133 and 134 represent partial sequences of a clone referred to as CoSub-3 and SEQ ID NO: 135 and 136 represent partial sequences of a clone referred to as CoSub-13. These sequences were compared with those in the public databases as described above. The sequences of SEQ ID NO: 139 and 149 showed no significant homologies to any previously identified sequences. The sequences of SEQ ID NO: 138, 140, 141, 142, 143, 148 and 149 showed some homology to previously isolated expressed sequence tags (ESTs). The sequences of SEQ ID NO: 133-137, 144-147, 150 and 151 showed some homology to previously isolated gene sequences.

The determined cDNA sequences for an additional 46 clones isolated as described above, are provided in SEQ ID NO: 569-616, wherein SEQ ID NO: 573 and 574 represent the 3' and 5' determined cDNA sequences, respectively, for clone CS1-106, and SEQ ID NO: 579 and 580 represent the determined 3' and 5' cDNA sequences, respectively, for clone CS1-124. Comparison of the isolated sequences with those in the public databases revealed no significant homologies to the sequences of SEQ ID NO: 580, 585, 610 and 613. The sequences of SEQ ID NO: 569, 574-577, 584, 587, 592, 595, 598, 603 and 608 showed some homology to previously isolated ESTs, while the sequences of SEQ ID NO: 570-573, 578, 581-583, 586, 588-591, 593, 594, 596, 597, 599-602, 604-607, 609, 611, 612 and 514-616 showed some homology to previously isolated gene sequences.

25

Example 3

USE OF MOUSE ANTISERA TO IDENTIFY DNA SEQUENCES

ENCODING COLON TUMOR ANTIGENS

This example illustrates the isolation of cDNA sequences encoding colon tumor antigens by screening of colon tumor cDNA libraries with mouse anti-tumor sera.

30

A cDNA expression library was prepared from SCID mouse-passaged

human colon tumor poly A+ RNA using a Stratagene (La Jolla, CA) Lambda ZAP Express kit, following the manufacturer's instructions. Sera was obtained from the colon tumor-bearing SCID mouse. This serum was injected into normal mice to produce anti-colon tumor serum. Approximately 600,000 PFUs were screened from the unamplified library using this antiserum. Using a goat anti-mouse IgG-A-M (H+L) alkaline phosphatase second antibody developed with NBT/BCIP (BRL Labs.), positive plaques were identified. Phage was purified and phagemid excised for several clones with inserts in a pBK-CMV vector for expression in prokaryotic or eukaryotic cells.

10 The determined cDNA sequences for 46 of the isolated clones are provided in SEQ ID NO: 152-197. The predicted amino acid sequences for the cDNA sequences of SEQ ID NO: 187, 188, 189, 190, 194, 195 and 197 are provided in SEQ ID NO: 198-204, respectively. The determined cDNA sequences were compared with those in the public database as described above. The sequences of 15 SEQ ID NO: 156, 168, 184, 189, 192 and 196 showed some homology to previously isolated ESTs. The sequences of SEQ ID NO: 152-155, 157-167, 169-182, 183, 185-188, 190, 194, 195 and 197 showed some homology to previously identified genes.

 The determined cDNA sequences for an additional eleven clones isolated as described above, are provided in SEQ ID NO: 617-627. Comparison of 20 these sequences with those in the public database as described above revealed no known homologies to SEQ ID NO: 621 and 623. The sequences of SEQ ID NO: 622 and 626 were found to show some homology to previously isolated ESTs, while the sequences of SEQ ID NO: 617-620, 624, 625 and 627 showed some homology to previously identified genes.

25 In further studies, a cDNA library was prepared from SCID-mouse grown colon tumors and screened with mouse anti-SCID serum as described above. Briefly first strand cDNA was synthesized from poly A+ RNA from three SCID mouse-grown human colon tumors using a Lambda ZAP Express cDNA synthesis kit (Stratagene). The reactions were pooled and digested with RNase A, T1 and H to 30 cleave the RNA and then treated with NaOH to degrade the RNA. The cDNA was annealed with biotinylated cDNA from a normal resting PBMC plasmid library

(constructed from Superscript plasmid system; Gibco BRL) and subtracted with streptavidin by phenol/chloroform extraction. Second strand cDNA was synthesized from the subtracted first strand cDNA and digested with S1 nuclease. The cDNA was blunted with Pfu polymerase and EcoRI adaptors were ligated to the ends. The cDNA
5 was phosphorylated with T4 polynucleotide kinase, digested with restriction endonuclease XhoI, and size selected with Sephacryl S-400 (Sigma). Fractions were pooled, ligated to Lambda ZAP Express arms (Stratagene) and packaged with Gigapack Gold III extract (Stratagene). The resulting library was screened with a mouse antiserum raised against serum from SCID mice containing human colon
10 tumors, including the three tumors used to prepare the cDNA libraries.

The determined cDNA for one clone isolated using this procedure is provided in SEQ ID NO: 630. This clone was found to show homology to a previously identified gene. The amino acid sequence encoded by the clone of SEQ ID NO: 630 is provided in SEQ ID NO: 631.

15 In subsequent studies, an additional cDNA library was prepared from a SCID-passaged human colon tumor and screened with a mouse antiserum raised against serum from the SCID mouse containing the colon tumor. The determined cDNA sequences for 51 clones isolated in these studies are provided in SEQ ID NO: 632-682. Comparison of these sequences with those in the public databases revealed
20 no significant homologies to the sequences of SEQ ID NO: 648 and 668. The sequence of SEQ ID NO: 642 showed some homology to previously isolated ESTs. The sequences of SEQ ID NO: 632-641, 643-647, 649-667 and 669-682 were found to show some homology to previously identified genes. SEQ ID NO: 684 and SEQ ID NO: 690 showed homology to human NADH/NADPH thyroid oxidase p138-tox
25 mRNA.

Example 4

ISOLATION AND CHARACTERIZATION OF COLON TUMOR POLYPEPTIDES BY CONVENTIONAL SUBTRACTION

Two cDNA libraries were constructed and used to create a subtracted cDNA library as follows.

Using the GibcoBRL Superscript Plasmid System with minor modifications, two cDNA libraries were created. The first library, referred to as CTCL, was prepared from a pool of mRNA samples from three colon adenocarcinoma tissue samples. Two of the samples were described as Duke's stage C and one as Duke's stage B. All three samples were grade III in histological status. A second library (referred to as DriverLibpcDNA3.1+) was prepared from a pool of normal tissues, namely liver, pancreas, skin, bone marrow, resting PBMC, stomach and brain. Both libraries were prepared using the manufacturer's instructions with the following modifications: an EcoRI-NotI 5' cDNA adapter was used instead of the provided reagent; the vector pCDNA3.1(+) (Invitrogen) was substituted for the pSPORT vector; and the ligated DNA molecules were transformed into ElectroMaxDH10B electrocompetent cells. Clones from the libraries were analyzed by restriction digest and sequencing to determine average insert size, quality of the library and complexity of the library. DNA was prepared from each library and digested.

The driver DNA was biotinylated and hybridized with the colon library tester DNA at a ratio of 10:1. After two rounds of hybridizations, streptavidin incubations and extractions, the remaining colon cDNAs were size-selected by column chromatography and cloned into the pCMV-Script vector from Stratagene. Clones from this subtracted library (referred to as CTCL-S1) were characterized as described above for the unsubtracted libraries.

The determined cDNA sequences for 20 clones isolated from the CTCL-S1 library are provided in SEQ ID NO: 462-479, 628 and 629. Comparison of these sequences with those in the public databases, as described above, revealed no significant homologies to the sequences of SEQ ID NO: 476, 477 and 479. The remaining sequences showed some homology to previously identified genes.

In further studies, a cDNA library was prepared from a pool of mRNA from three metastatic colon adenocarcinomas derived from liver tissue samples. All samples were described as Duke's stage D. Conventional subtraction was performed as described above, using the DriverLibpcDNA3.1+ library described above as the

driver. The resulting subtracted library (referred to as CMCL-S1) was characterized by isolating a set of clones for restriction analysis and sequencing.

The determined cDNA sequences for 7 clones isolated from the CMCL-S1 library are provided in SEQ ID NO: 480-486. Comparison of these
5 sequences with those in the public databases revealed no significant homologies to the sequence of SEQ ID NO: 483. The sequences of SEQ ID NO: 480-482 and 484-486 were found to show some homology to previously identified genes.

Example 5

10 SYNTHESIS OF POLYPEPTIDES

Polypeptides may be synthesized on a Perkin Elmer/Applied Biosystems Division 430A peptide synthesizer using FMOC chemistry with HPTU (O-Benzotriazole-N,N,N',N'-tetramethyluronium hexafluorophosphate) activation. A
15 Gly-Cys-Gly sequence may be attached to the amino terminus of the peptide to provide a method of conjugation, binding to an immobilized surface, or labeling of the peptide. Cleavage of the peptides from the solid support may be carried out using the following cleavage mixture: trifluoroacetic acid:ethanedithiol:thioanisole:water:phenol (40:1:2:2:3). After cleaving for 2 hours,
20 the peptides may be precipitated in cold methyl-t-butyl-ether. The peptide pellets may then be dissolved in water containing 0.1% trifluoroacetic acid (TFA) and lyophilized prior to purification by C18 reverse phase HPLC. A gradient of 0%-60% acetonitrile (containing 0.1% TFA) in water (containing 0.1% TFA) may be used to elute the peptides. Following lyophilization of the pure fractions, the peptides may be
25 characterized using electrospray or other types of mass spectrometry and by amino acid analysis.

From the foregoing it will be appreciated that, although specific embodiments of the invention have been described herein for purposes of illustration,
30 various modifications may be made without deviating from the spirit and scope of the invention. Accordingly, the invention is not limited except as by the appended claims.

5

CLAIMS

- 10 1. An isolated polypeptide, comprising at least an immunogenic portion of a colon tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:
- 15 (a) sequences recited in SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565, 568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081;
- 20 (b) sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-
- 25 556, 559, 561, 564, 565, 568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081;
- 30 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-

193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233,
234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259,
260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298,
300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345,
5 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-
417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454,
455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500,
510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565,
568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603,
10 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-
691, and 694-1081 under moderately stringent conditions; and

(c) complements of sequences of (a) or (b).

2. An isolated polypeptide according to claim 1, wherein the
15 polypeptide comprises an amino acid sequence that is encoded by a polynucleotide
sequence recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38,
40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-
132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207,
210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248,
20 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294,
298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358,
361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-
436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492,
497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565, 568,
25 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623,
626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081, or a complement of any of
the foregoing polynucleotide sequences.

3. An isolated polypeptide comprising a sequence recited in any
30 one of SEQ ID NOs: 122 and 198-204.

4. An isolated polynucleotide encoding at least 15 amino acid residues of a colon tumor protein, or a variant thereof that differs in one or more substitutions, deletions, additions and/or insertions such that the ability of the variant to react with antigen-specific antisera is not substantially diminished, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID Nos: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565, 568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081, or a complement of any of the foregoing sequences.

5. An isolated polynucleotide encoding a colon tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565, 568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-

691, and 694-1081, or a complement of any of the foregoing sequences.

6. An isolated polynucleotide, comprising a sequence recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565, 568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081.

15

7. An isolated polynucleotide, comprising a sequence that hybridizes to a sequence recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565, 568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081 under moderately stringent conditions.

30

8. An isolated polynucleotide complementary to a polynucleotide according to any one of claims 4-7.

9. An expression vector, comprising a polynucleotide according to any one of claims claim 4-8.

5 10. A host cell transformed or transfected with an expression vector according to claim 9.

11. An isolated antibody, or antigen-binding fragment thereof, that specifically binds to a colon tumor protein that comprises an amino acid sequence that
10 is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-
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12. A fusion protein, comprising at least one polypeptide according to claim 1.

25

13. A fusion protein according to claim 12, wherein the fusion protein comprises an expression enhancer that increases expression of the fusion protein in a host cell transfected with a polynucleotide encoding the fusion protein.

30

14. A fusion protein according to claim 12, wherein the fusion protein comprises a T helper epitope that is not present within the polypeptide of

claim 1.

15. A fusion protein according to claim 12, wherein the fusion protein comprises an affinity tag.

5

16. An isolated polynucleotide encoding a fusion protein according to claim 12.

17. A pharmaceutical composition, comprising a physiologically acceptable carrier and at least one component selected from the group consisting of:

- (a) a polypeptide according to claim 1;
- (b) a polynucleotide according to claim 4;
- (c) an antibody according to claim 11;
- (d) a fusion protein according to claim 12; and
- 15 (e) a polynucleotide according to claim 16.

18. A vaccine comprising an immunostimulant and at least one component selected from the group consisting of:

- (a) a polypeptide according to claim 1;
- 20 (b) a polynucleotide according to claim 4;
- (c) an antibody according to claim 11;
- (d) a fusion protein according to claim 12; and
- (e) a polynucleotide according to claim 16.

19. A vaccine according to claim 18, wherein the immunostimulant is an adjuvant.

20. A vaccine according to any claim 18, wherein the immunostimulant induces a predominantly Type I response.

30

21. A method for inhibiting the development of a cancer in a

patient, comprising administering to a patient an effective amount of a pharmaceutical composition according to claim 17.

22. A method for inhibiting the development of a cancer in a
5 patient, comprising administering to a patient an effective amount of a vaccine according to claim 18.

23. A pharmaceutical composition comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with
10 a pharmaceutically acceptable carrier or excipient.

24. A pharmaceutical composition according to claim 23, wherein the antigen presenting cell is a dendritic cell or a macrophage.

15 25. A vaccine comprising an antigen-presenting cell that expresses a polypeptide comprising at least an immunogenic portion of a colon tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(a) sequences recited in SEQ ID NOs: 1-121, 123-197, 205-630
20 and 632-684, 686, 690-691, and 694-1081;

(b) sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081 under moderately stringent conditions; and

(c) complements of sequences of (i) or (ii);
25 in combination with an immunostimulant.

26. A vaccine according to claim 25, wherein the immunostimulant is an adjuvant.

30 27. A vaccine according to claim 25, wherein the immunostimulant induces a predominantly Type I response.

28. A vaccine according to claim 25, wherein the antigen-presenting cell is a dendritic cell.

5 29. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antigen-presenting cell that expresses a polypeptide comprising at least an immunogenic portion of a colon tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence
10 selected from the group consisting of:

(a) sequences recited in SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081;

(b) sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081
15 under moderately stringent conditions; and

(c) complements of sequences of (i) or (ii) encoded by a polynucleotide recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081;

and thereby inhibiting the development of a cancer in the patient.

20

30. A method according to claim 29, wherein the antigen-presenting cell is a dendritic cell.

31. A method according to any one of claims 21, 22 and 29,
25 wherein the cancer is colon cancer.

32. A method for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a colon tumor protein, wherein the tumor protein comprises an amino acid sequence
30 that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NOs: 1-

121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081; and

(ii) complements of the foregoing polynucleotides;

wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the antigen from the sample.

5

33. A method according to claim 32, wherein the biological sample is blood or a fraction thereof.

34. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated according to the method of claim 32.

35. A method for stimulating and/or expanding T cells specific for a colon tumor protein, comprising contacting T cells with at least one component selected from the group consisting of:

(a) polypeptides comprising at least an immunogenic portion of a colon tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) sequences recited in SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081;

(ii) sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081 under moderately stringent conditions; and

(iii) complements of sequences of (i) or (ii);

(b) polynucleotides encoding a polypeptide of (a); and

(c) antigen presenting cells that express a polypeptide of (a);

under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells.

30

36. An isolated T cell population, comprising T cells prepared

according
to the method of claim 35.

37. A method for inhibiting the development of a cancer in a
5 patient, comprising administering to a patient an effective amount of a T cell
population according to claim 36.

38. A method for inhibiting the development of a cancer in a
patient, comprising the steps of:

10 (a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient
with at least one component selected from the group consisting of:

(i) polypeptides comprising at least an immunogenic
portion of a colon tumor protein, or a variant thereof, wherein the tumor
protein comprises an amino acid sequence that is encoded by a polynucleotide
15 sequence selected from the group consisting of:

(1) sequences recited in SEQ ID NOs: 1-121, 123-
197, 205-630 and 632-684, 686, 690-691, and 694-1081

(2) sequences that hybridize to a sequence recited in
any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686,
20 690-691, and 694-1081 under moderately stringent conditions; and

(3) complements of sequences of (1) or (2);

(ii) polynucleotides encoding a polypeptide of (i); and

(iii) antigen presenting cells that expresses a polypeptide of
(i);

25 such that T cells proliferate; and

(b) administering to the patient an effective amount of the
proliferated T cells, and thereby inhibiting the development of a cancer in the patient.

39. A method for inhibiting the development of a cancer in a
30 patient, comprising the steps of:

(a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient

with at least one component selected from the group consisting of:

(i) polypeptides comprising at least an immunogenic portion of a colon tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(1) sequences recited in SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081;

(2) sequences that hybridize to a sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081 under moderately stringent conditions; and

(3) complements of sequences of (1) or (2);

(ii) polynucleotides encoding a polypeptide of (i); and

(iii) antigen presenting cells that express a polypeptide of (i); such that T cells proliferate;

(b) cloning at least one proliferated cell to provide cloned T cells;

and

(c) administering to the patient an effective amount of the cloned T cells, and thereby inhibiting the development of a cancer in the patient.

40. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with a binding agent that binds to a colon tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081 or a complement of any of the foregoing polynucleotide sequences;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent; and

(c) comparing the amount of polypeptide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

41. A method according to claim 40, wherein the binding agent is an antibody.

5 42. A method according to claim 43, wherein the antibody is a monoclonal antibody.

43. A method according to claim 40, wherein the cancer is colon cancer.

10

44. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a colon tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081 or a complement of any of the foregoing polynucleotide sequences;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polypeptide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

45. A method according to claim 44, wherein the binding agent is an antibody.

30 46. A method according to claim 45, wherein the antibody is a monoclonal antibody.

47. A method according to claim 44, wherein the cancer is a colon cancer.

5 48. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a colon tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630
10 and 632-684, 686, 690-691, and 694-1081 or a complement of any of the foregoing polynucleotide sequences;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; and

15 (c) comparing the amount of polynucleotide that hybridizes to the oligonucleotide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

49. A method according to claim 48, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase
20 chain reaction.

50. A method according to claim 48, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.
25

51. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a colon tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a
30

polynucleotide sequence recited in any one of SEQ ID NOs: 1-121, 123-197, 205-630 and 632-684, 686, 690-691, and 694-1081 or a complement of any of the foregoing polynucleotide sequences;

(b) detecting in the sample an amount of a polynucleotide that
5 hybridizes to the oligonucleotide;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polynucleotide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the
10 cancer in the patient.

52. A method according to claim 51, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

15

53. A method according to claim 51, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

20

54. A diagnostic kit, comprising:

- (a) one or more antibodies according to claim 11; and
- (b) a detection reagent comprising a reporter group.

55. A kit according to claim 54, wherein the antibodies are
25 immobilized on a solid support.

56. A kit according to claim 54, wherein the detection reagent comprises an anti-immunoglobulin, protein G, protein A or lectin.

30

57. A kit according to claim 54, wherein the reporter group is selected from the group consisting of radioisotopes, fluorescent groups, luminescent

groups, enzymes, biotin and dye particles.

58. An oligonucleotide comprising 10 to 40 contiguous nucleotides that hybridize under moderately stringent conditions to a polynucleotide that encodes a colon tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565, 568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081, or a complement of any of the foregoing polynucleotides.

59. A oligonucleotide according to claim 58, wherein the oligonucleotide comprises 10-40 contiguous nucleotides recited in any one of SEQ ID NOs: 2, 8, 15, 16, 22, 24, 30, 32-34, 36, 38, 40, 41, 46-49, 52, 54, 59, 60, 65-69, 79, 89, 90, 93, 99-101, 109-111, 116-119, 123-132, 138-142, 143, 148, 149, 156, 168, 170-182, 184, 189, 191-193, 196, 205, 207, 210-212, 214, 215, 218, 224-226, 228, 233, 234, 236, 238, 241, 242, 245, 246, 248, 250, 253, 254, 256, 259, 260, 262, 263, 266, 267, 270-273, 279, 282, 291, 293, 294, 298, 300, 302, 303, 310-313, 315, 317, 320, 322, 324, 332-335, 345, 347, 356, 358, 361, 362, 366, 369, 371-378, 380-404, 406, 409-417, 419-423, 425, 427-429, 433-436, 438-441, 443, 446-451, 454, 455, 457-461, 476, 477, 479, 483, 488, 491, 492, 497, 498, 500, 510, 519, 527, 528, 543, 545, 547, 553, 556, 559, 561, 564, 565, 568, 569, 574-577, 579, 580, 584, 585, 587, 592, 595, 598, 603, 608, 610, 613, 621-623, 626, 642, 648, 668, 682-684, 686, 690-691, and 694-1081.

60. A diagnostic kit, comprising:
- (a) an oligonucleotide according to claim 59; and
 - (b) a diagnostic reagent for use in a polymerase chain reaction or
- 5 hybridization assay.

SEQUENCE LISTING

<110> Corixa Corporation
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 Lodes, Michael J.
 Secrist, Heather
 Benson, Darin R.
 Meagher, Madeleine Joy
 King, Gordon E.

<120> COMPOUNDS FOR IMMUNOTHERAPY AND
 DIAGNOSIS OF COLON CANCER AND METHODS FOR THEIR USE

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 <212> DNA
 <213> Homo sapien

<400> 5						
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tatgtatgtg	gaatccagaa	ctkcagttag	tgcaaaccgc	agtgaaccag	tcaccctgga	120
tgctctctat	gggccagaca	scctccatca	tttccccccc	agactcgtct	tacctttcgg	180
gagcgaacct	caacctctcc	tgccactcgg	cctctaacc	atccccgcag	tattcttggc	240
kgtatcaatg	ggataccgca	gcaacacaca	caagttctct	ttatcgccaa	aatcacgcca	300
aataataacg	ggacctatgc	ctgttttgtc	tctaacttgg	ctactggccc	gcaataattc	360
catagtcaag	agcatcacag	tcttctgcat	ctggaacttc	tcttggctct	ct	412

<210> 6
 <211> 332
 <212> DNA
 <213> Homo sapien

<400> 6						
gtgcaagggc	tttacaaaaa	ctgtgccagt	krcctctyca	tgwsrwwrga	tctgacttka	60
ttsaygttkt	atgagsysya	saatmctgaw	gctcmtyts	sakgrwsttc	kgsatmrgca	120
gtsrattcsa	catttgggrt	akrtymtctc	tsgaagysam	tgtaakgcag	tgrcayccwr	180
gkktcwgwt	gcwgtgrgtt	amcakcmwtr	ywtgkqsgm	ayatrattta	ramrgtayak	240
cymtctcmct	cytycmccay	wtgwcwaass	mkcacacctc	ggccgcgacc	acgctaagcc	300

cgaattccag cacactggcg gccgttacta gt

332

<210> 7

<211> 401

<212> DNA

<213> Homo sapien

<400> 7

tggtgttgtt	ggcgccagtt	ccctggacct	ggaacagccg	tgtggagggc	ccggtctcca	60
agttgttagt	tcgggagggtg	cctccctggt	agaccaccat	gcgtcccttg	aagatggaca	120
taagatgagg	tggtcctctg	cccattggga	cccggatctg	gactggttca	ccattgtact	180
tctggtccag	gatgacggct	tgataagctg	atgctgtaat	ttcatcttgg	ctggcctggc	240
tgccctgcc	aacgtagagc	aggtaatgct	gcttctcgcc	gatgaaggta	ggtgtaagag	300
cagcaggtaa	gcaagttcgc	ccccatagaa	gtgggcctag	ccacttgga	ttccagcaca	360
ctggcggccc	gttactagt	ggatcccag	ctcgggtacca	a		401

<210> 8

<211> 1151

<212> DNA

<213> Homo sapien

<400> 8

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tatctgccac	atacaagca	tcattccagg	tgctagttag	gggaaaaaaa	agttggagat	120
ttggtccctc	gaggagctcc	agatattaat	ctacctaaat	aagtcctcag	gtttcttcca	180
ggcatggaag	aattagtgg	gctacatgga	tgaggactag	tcattgggca	atatttcctg	240
tacaaagaat	ccctagacgc	catactgagt	tttaagttcc	tttaattccta	atttaaggct	300
tctagtgaag	cctcctcaca	gtaggcttca	ctaggcccac	agtgtcccta	gacctctgac	360
aatcccaccc	tagacagact	ttattgcaaa	atgcgcctga	agaggcagat	gattccaag	420
agaactcacc	aaatcaagac	aaatgtccta	gatctctagt	gtggtagaac	tatgcacct	480
aacattgctg	caaaatgaac	acacttttag	acaccctgc	agatatctaa	gtaagtggag	540
aagactattt	tttcaacaaa	cattttctct	ttacccttaa	ctcctaaaca	gcttactggg	600
gcttctgcaa	gacagaaaga	tcataattca	gaaggtaacc	atcgttatag	acataaagtt	660
tctggtcaaa	agggttatag	ttaatgctct	gcactttttc	ctgcatctta	tgcattacaa	720
tgtctagttt	gccctctttc	cctgtgtttg	tgtcataata	gtaaaaaatc	tcttctgttc	780
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gatggtttat	actgcttggt	ataccaagt	tttagcacct	gaagtgtggt	gtcattgagt	900
ttactaatca	ccatgttacc	agtgtggct	tcagttgaat	aaataaccca	caatccattc	960
tcattccacag	caaaagtcaat	atcttgccaa	gcaacattag	catatgaaaa	gcggttatta	1020
taggcagcat	tagggagagt	ttgagtcaca	gcaatcgtgt	tggtgggtcag	gttaactctg	1080
gcaatatcc	cggtgttgta	catgttgacg	tacatgttgt	tggtgtaaac	tgctgtacca	1140
ctaccttgg	a					1151

<210> 9

<211> 604

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(604)

<223> n = A,T,C or G

<400> 9

ctgtgcaagg	gctttacaaa	aaatgtgcc	ggacttccca	tgaggetgga	ttgcttgatt	60
catgttttat	gagccacaca	atactgaagc	tccttttcca	gggacttggc	ataggcagtc	120
aattccacat	ttgggatagg	tcctctctgg	aagtgaatgt	caggcagtg	catccaagtt	180
tctgcatgca	gtgggttaac	agccatgttt	agggggaaca	tgatttaaaa	agtacatctc	240

tctccctcct	ccccacatg	cacaaggctc	acatctcatt	atggtgkcg	cccatgtcac	300
attaaagtgt	gataacttkg	ttttgaaaac	attcaaacag	tctctgtgga	aatctggaga	360
gaaattggcg	gagagctgcc	gtggtgcatt	cctcctgtag	tgcttcaagn	taatgcttca	420
tcctttntta	ataacttttg	atagacaggg	gctagtgcga	cagacctctg	ggaagccctg	480
gaaaacgctg	atgcttgttt	gaagatctca	agcgagaggt	ctgcaagtgc	atcccctctt	540
tcctgaggtc	tggttgctgg	aggctgcaga	acattggtga	tgacatggac	cacgccattt	600
gtgg						604

<210> 10
 <211> 473
 <212> DNA
 <213> Homo sapien

<400> 10						
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acctgtgtaa	caaccacatc	ttgaagtcag	ctatgtgtgc	tgaagccatc	gttgcggggc	120
tgtctgtgga	gaccttgagg	ggcacgacac	tggaggtggg	ctgcagcggg	gacatgctca	180
ctatcaacgg	gaaggcgatc	atctccaata	aagacatcct	agccaccaac	ggggtgatcc	240
actacattga	tgagctactc	atcccagact	cagccaagac	actatttgaa	ttggctgcag	300
agtctgatgt	gtccacagcc	attgaccttt	tcagacaagc	cggcctcggc	aatcatctct	360
ctggaagtga	gcggttgacc	ctcctgggct	cccctgaatt	ctgtattcaa	agatggaacc	420
cctccaattg	atgcccatat	aagggaattg	cttcggaacc	acataattaa	aga	473

<210> 11
 <211> 411
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(411)
 <223> n = A,T,C or G

<400> 11						
tcctcattgg	tcggggccaa	aagcgtgtac	tggccgttac	cttcaagcat	cgtgttgagc	60
cctgatgcag	ccacagcagc	cgaagggtc	tcaaagggtg	cctcgatctc	aatgatctgc	120
tggtgtgtgt	tggtgatggg	ggagatgacc	ttatcgatga	ggtgcaccac	cccgttggtt	180
gcattggtgt	cggttttyar	carccgggca	cagttcacag	ttacaatccc	attaggatag	240
tggtggatct	nggatgttgg	aattctggta	catagnaggt	gaggggtcat	gcccgtgttt	300
cagctcatca	gtcaggactc	gcctgcccac	catatggtta	gcsgragggc	atttgagcag	360
ctcaatgttt	gacattgctg	gaccagggga	gttcacgac	ttctangang	a	411

<210> 12
 <211> 560
 <212> DNA
 <213> Homo sapien

<400> 12						
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caggcaagtt	gctccagagc	atattgcagg	acaagcctgt	aacgaatagt	taaaattcacg	120
gcatctggat	tcctaatact	tttcggaaat	ggcaggtgtg	agtgcctgta	taaaatattc	180
tatgtttacc	ttcaacttct	tgttctggct	atgtggtatc	ttgatcctag	cattagcaat	240
atgggtacga	gtaagcaatg	actctcaagc	aatttttggg	tctgaagatg	taggctctag	300
ctcctacgtt	gctgtggaca	tattgattgc	tgtagggtgc	atcatcatga	ttctgggctt	360
cctgggatgc	tgcggtgcta	taaaagaaaag	tcgctgcag	cttctgttgt	ttttcatagg	420
cttgcttctg	atcctgctcc	tgcaaggtgg	cgacaggtat	cctaggagct	gttttcaaat	480
ctaagtctga	tcgcattgtg	aatgaaactc	tctatgaaaa	cacaaagctt	ttgagcgcca	540
caggggaaag	tgaaaaacaa					560

<210> 13
 <211> 150
 <212> DNA
 <213> Homo sapien

<400> 13
 gggcaggctg tctttttaaa atgtctcggc tagctagacc acagatatct tctagacata 60
 ttgaacacat ttaagatttg agggatataa gggaaaatga tatgaatgtg tatttttact 120
 caaaataaaa gtaactgttt acgttggtga 150

<210> 14
 <211> 403
 <212> DNA
 <213> Homo sapien

<400> 14
 ctgctgcctg tggcgtgtgt gggctggatc ccttgaaggc tgagtttttg agggcagaaa 60
 gctagctatg ggtagccagg tgttacaaag gtgctgctcc ttctccaacc octacttggt 120
 ttccctcacc ccaagcctca tggtcatacc agccagtggg ttcagcagaa cgcattgacac 180
 cttatcacct ccttccttgg gtgagctctg aacaccagct ttggccctc cagagtaagg 240
 ctgctacatc aggggcaacc ctggctctat ctttttcctt ttttgccaaa aggaccagta 300
 gcataggtga gccctgagca ctaaaaggag gggtccttga agctttccca ctatagtgtg 360
 gagttctgtc cctgaggtgg gtacagcagc cttggttcct ctg 403

<210> 15
 <211> 688
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(688)
 <223> n = A,T,C or G

<400> 15
 caaagcacat ttaatcatt ttttttaaaa gggggagtaa agcattttaa ctgccaatcc 60
 tatagctag gacttgaaca tcaaaggaaa aatagacaaa gactagatga taaagtcatt 120
 caaaagcaca gaagcacatc acatacacca gcaaggtttc caactactgc actgattaac 180
 tagatactct caatagcttt tctatagctc gtcctagaaa aaaaaattaa attttcattt 240
 tcttacaagt tccaggctta aacaaaggca aaaattacat gcaacaactg atacactcat 300
 aagttgcaca tatgtctcaa ggtctttatt agataacaat aaatgctagc actttgtcac 360
 tgccatcaga ttttccttat agtcttagag tcatgtaaat aaaagttcca taatgaaatt 420
 aaagaaaatt aatttttcta atcttagatc agttccatag aaaactatta atttttttaa 480
 agtaggcagt agaagggggg tgggtggggg tggaattggg tagtaagtct ggttctaato 540
 ttctgagctg cctttggaag gaagttatga ggtagaagat tctactgact tttagtaagg 600
 tggacaatga gagaaaagaa aaagcaggtg cctcatcnnc agatccttnt ggtatttatn 660
 tgccangtnc nanntaatnc atanaaag 688

<210> 16
 <211> 408
 <212> DNA
 <213> Homo sapien

<400> 16
 caggctcatca agatgactta caggatgtaa tagggagagc tgtcgagatt ggtgttaaaa 60
 agtttatgat tacagggtga aatctacaag acagtaaaga tgactgcat ttggcacaaa 120
 caaatggtat gtttttcagt acagttggat gtcgtcctac aagatgtggg gaatttgaaa 180

agaataaacc	tgatctttac	ttaaaggagt	tgctaaatct	tgctgaaaac	aataaaggga	240
aagttgtggc	aataggagaa	tgcggaactg	atcttgaccc	gactgcagtt	ttgtcccaa	300
gatactcaac	tcaaatatct	tgaaaaacag	tttgaactgt	cagaacaaac	aaaattacca	360
atgtttcttc	attgtccgaa	actcacatgc	tgaatttttg	gacataat		408

<210> 17

<211> 407

<212> DNA

<213> Homo sapien

<400> 17

ggctcctgggg	aggccctagg	ggagcaccgt	gatggagagg	acagagcagg	ggctccagca	60
ccttctttct	ggactggcgt	tcacctccct	gctcagtgct	tgggctccac	gggcaggggt	120
cagagcactc	cctaatttat	gtgctatata	aatatgtcag	atgtacatag	agatctatct	180
tttctaaaac	attccctctc	ccactcctct	cccacagagt	gctggactgt	tccaggccct	240
ccagtgggct	gatgctggga	cccttaggat	ggggtcccca	gctcctttct	cctgtgaatg	300
gaggcagaag	acctccaata	aagtgccttc	tgggcttttt	ctaacctttg	tcttagctac	360
ctgtgtactg	aaatttgggc	ctttggatcg	aatatggtca	agagggtt		407

<210> 18

<211> 405

<212> DNA

<213> Homo sapien

<400> 18

tgaagagtca	acttgggcct	ggaggactga	taaagtttgt	gattttgagg	gcctctaaaa	60
gtattaaagc	agcggcagcc	gctgcacgca	gacatgaggg	ctagggttaa	acagtaagat	120
caagttgttt	ggacagaaag	gctacagagt	gtggctcctg	ctcttgtgta	agaattacga	180
ccacgctaac	catgcctagg	aaggaaagga	gttattgttt	tgtagaaagg	tgctgggggt	240
tgagagatca	gtcggacacg	attggcaggg	agagcacgtg	tgtttttatg	agaattatgc	300
ccgagatagg	taacagatga	ggaagaaatt	tgggcttgat	tgaagtaatg	ggggctgtct	360
gtgaagcttt	gcagcagtac	agcctaggta	atttgcctga	cctaa		405

<210> 19

<211> 401

<212> DNA

<213> Homo sapien

<400> 19

tcttgacatt	cctgccttct	tatattaata	agacaaataa	aacaaaatag	tggtgaagtg	60
ttggggcagc	gaaaattttt	ggggggtggg	atggagagat	aatgggcgat	gtttctcagg	120
gctgcttcaa	gcgggattag	gggcggcgtg	ggagcctaga	gtgggagaga	ttaagctgaa	180
gggaggtctt	gtggttaagg	gtgatatcat	ggggatgtta	gaagaaacat	ttgtcgtata	240
gaatgattgg	tgatggcctg	gatacggttt	tggtatgatt	gagaagctaa	atggaagata	300
caaggtccga	ataaaaaggag	gagaaaaatg	ggtattaaat	gtctaagaat	tgggaggacc	360
taggacatct	gattagagag	tgctaagga	gattcagcat	a		401

<210> 20

<211> 331

<212> DNA

<213> Homo sapien

<400> 20

aggtccagct	ctgtctcata	cttgactcta	aagtcacag	cagcaagacg	ggcattgtca	60
atctgcagaa	cgatgcgggc	attgtccaca	gtatttgcca	agatctgagc	cctcaggtcc	120
tccgatgatc	tgaagtaatg	gctccagctc	ctgacctggg	gtcccttctt	ctccaagtgc	180
tcccggattt	tgctctccag	cctccggttc	tcggctccca	ggctcctcac	tctgtccagg	240
taagaggcca	ggcggctcgt	caggctttgc	atggctcctc	tctcgttctg	gatgcctccc	300

attcctgccca gacccccggc tatcccgtg g

331

<210> 21
<211> 346
<212> DNA
<213> Homo sapien

<220> .
<221> misc_feature
<222> (1)...(346)
<223> n = A,T,C or G

<400> 21
gggtccaccac ttgtaccgca tatggacttc cggtttctct gtccaatgga gccacactaa 60
agatctcacc agtcacgtgg tcaattttaaa gccaacctct tgtgtctccc ctcaagtgaat 120
agcttatgtc cagaccttct ggatccttgg ,cagtcacatt gccoacttta gtgcctatag 180
ctacatcctc actgactttc gcttgggaata cgtgttggga aaattgaggt gcttcattca 240
catctgtcac aataagncgt gaacttggca aaagaacttg cattgtactt cacaccaaac 300
actagaggct caggattttc tgctttgaac acaatgttgg aaacag 346

<210> 22
<211> 360
<212> DNA
<213> Homo sapien

<220> .
<221> misc_feature
<222> (1)...(360)
<223> n = A,T,C or G

<400> 22
gaagactccc tctctcgga gcccggatccc gagccgggca ggatggatca ccaccagccg 60
gggactgggc gctaccaggt gcttcttaat gaagaggata actcagaatc atcggctata 120
gagcagccac ctacttcaaa cccagcacc gcagattgtg caggctgcgt cttcagcacc 180
agcacttgaa actgactctt cccctccacc atatagtagt attactggtg gaagtaccta 240
caacttcaga tacagaagtt tacgggtgagt tttatcccgt gccacctccc tatagcgttg 300
ctacctctct tctacnwtc cgatgaaagc tgagaaggct aaagctgctg caatggcatg 360

<210> 23
<211> 251
<212> DNA
<213> Homo sapien

<400> 23
ggcggagctc cagcagcagc tggaaaagga accttttgag gatggctttg caaatgggga 60
agaaagtact ccaaccagag atgctgtggt cacgtatact gcagaaagta aaggagtcgt 120
gaagtgtggc tggatcaagg gtgtattagt acgttgtatg ttaaaccattt ggggtgtgat 180
gcttttcatt agattgtcat ggattgtggg tcaagctgga ataggtctat cagtccttgt 240
aataatgatg g 251

<210> 24
<211> 421
<212> DNA
<213> Homo sapien

<220> .
<221> misc_feature
<222> (1)...(421)

<223> n = A,T,C or G

<400> 24

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caggctcttc ccagggtgtg actccagctc cagcttcagc tccagctcca ggtcgggctc 60
cagctccagc cgcagcttar gcagcgggag gttctgtgtc ccagttgttt tccaatttca 120
ccggctcccg tggatgamcg ygggacctgy caswgctcct gtktycctgc yagsacacca 180
cnytttyccg tggacacrar kggaaackct tggaaattcac agctyatgtt ctttctcara 240
agtttgagaa agaactttct aaagtgaggg aatatgtcca attaatagtg gtgtatgaaa 300
agaaactgtt aaacctaaact gtccgaattg acatcatgga raaaggatac catttcttac 360
actgaactgg acttcgagct gatcaaggta gaagtgaagg agatggaaaa actggtcata 420
c
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<210> 25

<211> 381

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(381)

<223> n = A,T,C or G

<400> 25

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gaactttttg tttctttatt ttcaatattt gtcttattaa tatttttctt attttataat 60
gcaattacaa caatttagga nacaaaacaa tataaacaaa agaagtgtta atagtttttt 120
ttaaaaaata gcttggtgct tgcaanaaag tccatataat cttattcccc cccaaatata 180
attttatact ttgcactaaa ccaaaatagc ttatggaaaa ttagtattaa atagctaaac 240
acagaaaacc tacagctata aataacataa aatacagttt aactttaatg ngatgcttaa 300
acaaagcaaa ctatgatgca atatgaatca acttcattaa ttggacaagt ccagnggagg 360
cacaaattag ataagcacta a
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<210> 26

<211> 401

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(401)

<223> n = A,T,C or G

<400> 26

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ggaaaaggga ctggcctctc tgaagagtga gatgagggaa gtggaaggag agctggaaag 60
gaaggagctg gagtttgaca cgaatatgga tgcagtacag atggtgatta cagaagccca 120
gaagggtgat accagaagcc aagaacgctg gggttacaat ccaagacaca ctcaacacat 180
tagacgggct cctgcattct gatggaccaa ccttttcang tggtagatt gaagangggg 240
cctgggctta cctgggaagc aaaaactttt cccganccaa ggaacccagg attcaaccan 300
gcnacttgcg ggccaaggaa ggcanaactn ggaanaaaag gcccttaag caaaagggnc 360
accttcattt gctnggaaan cagcctttan ttggaatctt g
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<210> 27

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(383)

<223> n = A,T,C or G

<400> 27

aattgcaact	ggacttttat	tgggcagtta	cnacaacnaa	tgttttcana	aaaatatttg	60
gaaaaaata	accacttcat	agctaagtct	tacagagaan	aggatttgct	aataaaactt	120
aagttttgaa	aattaagatg	cnggtanagc	ttctgaacta	atgccacacg	ctccaaggaa	180
nacatgtcct	atttagttat	tcaaatacca	gttgagggca	ttgtgattaa	gcaaacaata	240
tatttggtan	aactttgntt	ttaaattact	gntncttgac	attacttata	aaggagnctc	300
taactttcga	tttctaaaac	tatgtaatac	aaaagtatan	ntttcccat	tttgataaaa	360
gggccnanga	tactgantag	gaa				383

<210> 28

<211> 401

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(401)

<223> n = A,T,C or G

<400> 28

ggtcgcgttt	cccttggtc	acagtctgcc	attatttgca	tttttaaag	aagaaaagtt	60
taacgtggat	ggatggacag	tttacaatcc	agtggaagaa	tacaggaggc	agggettggc	120
caatcaccat	tggagaataa	cttttattaa	taagtgtat	gagctctgcg	acacttacc	180
tgctcttttg	gtggttccgt	atcgtgcctc	anatgatgac	ctccggagag	ttgcaacttt	240
taggtcccg	aatcgaaatc	cagtgcgtgc	atggattcat	ccagaaaata	agacgggtcat	300
tgtgcgttgc	agtcagcctc	ttgtcggtat	gagtgggaaa	cgaaataaag	atgatgagaa	360
atatctcgat	ggtatcaggg	agactaataa	acaaatttct	a		401

<210> 29

<211> 401

<212> DNA

<213> Homo sapien

<400> 29

atatgagttt	gccatctcca	tggatgccat	ttcaatgcct	tcagggtaat	cattctctcc	60
ocaaagactg	cccacggggt	catcactcct	gtgacgaaat	gagggctgga	ttgaagatgt	120
tctgctgagc	acccccctgg	tcatctttgg	ggtctcagaa	gagccataat	catgaccatt	180
ctcagcatct	gaataatcag	gttctctcca	agtgcctggc	aagttctgat	tgctctcagc	240
actgggatag	tctggctccc	caaaaaagg	tggagagtta	ggttgaatgt	cagcgcctgg	300
ataatcaggc	tttcccagag	agtctgcgta	tggattgatt	ctaaaacttg	tatgttccag	360
attctttctg	gatcctggat	ggttcaaatt	ggctctgggt	c		401

<210> 30

<211> 401

<212> DNA

<213> Homo sapien

<400> 30

cctgaactat	ttattaaaaa	catgaccact	cttggtatt	gaagatgctg	cctgtatttg	60
agagactgcc	atacataata	tatgacttcc	tagggatctg	aaatccataa	actaagagaa	120
actgtgtata	gcttacctga	acaggaatcc	ttactgatat	ttatagaaca	gttgatttcc	180
cccatcccca	gtttatggat	atgctgcttt	aaacttggaa	gggggagaca	ggaagtttta	240
attgtttctga	ctaaacttag	gagttgagct	aggagtgcgt	tcattggttc	ttcactaaca	300
gaggaaattat	gctttgcact	acgtccctcc	aagtgaagac	agactgtttt	agacagactt	360
tttaaaatgg	tgccctacca	ttgacacatg	cagaaattgg	t		401

<210> 31
 <211> 297
 <212> DNA
 <213> Homo sapien

<400> 31
 acctccatta atgccagggtg ttctctctct gatgccagga atgccaccag ttatgccagg 60
 catgccacct ggattgcatc atcagagaaa atacaccag tcattttgcg gtgaaaacat 120
 aatgatgcc aatgggtggaa tgatgccacc tggaccagga ataccacctc tgatgcctgg 180
 aatgccacca ggtatgcccc cactgttcc acgtcctgga attcctccaa tgactcaagc 240
 acaggctgtt tcagcgccag gtattcttaa tagaccacct gcaccaacag caactgt 297

<210> 32
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 32
 caaacctgga gccaaaaagg acacaaagga ctctcgacc aaactgcccc agaccctctc 60
 cagagggttg ggtgaccaac tcctctggac tcagacatat gaagaagctc tatataaatc 120
 caagacaagc aacaaacct tgatgattat tcctcacttg ggtgagtgc caccagtc 180
 agctttaaag aaagtgtttg ctgaaaataa agaaatccag aaattggcag agcagtttgt 240
 cctcctcaat ctggtttatg aaacaactga caaacacctt tctcctgatg gccagtatgt 300
 cccaggatt atgtttgttg acccatctct gacagttaga gccgatata actggaagat 360
 attcaaacg tctctatgct tacgaacctg cagatacagc t 401

<210> 33
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 33
 agcagaggga caggaatcat tcggccactg ttcagacggg agccacacc ttctccaatc 60
 caagcctggc cccagaagat cacaagagc caaagaaact ggcaggtgtc caccgctcc 120
 aggccagtga gttggttgct acttactttt tctgtgggga agaaattcca taccggagga 180
 tgctgaaggc tcagagcttg accctgggac actttaaga gcagctcagc aaaaaggga 240
 attataggta ttacttcaaa aaagcaagcg atgagtttgc ctgtggagcg gtgtttgagg 300
 agatctggga ggatgagacg gtgctccga tgtatgaagg ccggattctg ggcaaaagtgg 360
 agcggatcga ttgagccctg ggtctggct ttggtgaact g 401

<210> 34
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 34
 aacaatggct atgaaggcat tgctgttgca atcgaccca atgtgccaga agatgaaaca 60
 ctcatccaac aaataaagga catggtgacc caggcatctc tgtatctgtt tgaagctaca 120
 ggaaagcgat tttatttcaa aaatgttgcc attttgattc ctgaaacatg gaagacaaag 180
 gctgactatg tgagaccaa acttgagacc tacaaaaatg ctgatgttct ggttgcttga 240
 gtctactcct ccaggtaatg atgaacccta cactgagcag atggggcaac tgtggagaga 300
 aggggtgaaa cgatcccacc tcaactctga tttcattgca ggaaaaaagt tagcttgaat 360
 atggaccaca aggtaagggc atttgtccat gaatggggct c 401

<210> 35
 <211> 401
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(401)
 <223> n = A,T,C or G

<400> 35
 catttcttcc tactagactg ccccttgat ccactggcag aaatgatggc accaccttgt 60
 cttcaggtgg tgctccttca ttattccaag gatgcagcat ctctatggtg ccaggatagg 120
 gggtaaagcc tttagcgccc ttccgcaat ggcacatcag cagtaaaagt ggtaccaata 180
 gcangaacag aaagggcaaa atcatgancg caattgctgc ggggtccaag cccacatagg 240
 aatcatgctg ngcttccctg canccgctgc catgcaagac actnacaaac tngngantgta 300
 aggacctgct tttcaggaca actaaaaccc tgattgnctg aaatcaggaa ctgaatttca 360
 cttctcccaa gctttttctc actttggtgc aacancacac t 401

<210> 36
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 36
 cctgctagaa tcaactgccgc tgtgctttcg tggaaatgac agttccttgt tttttttggt 60
 tctgtttttg ttttacatta gtcatgggac cacagccatt caggaaactac cccctgcccc 120
 acaaagaaat gaacagttgt agggagaccc agcagcacct ttcctccaca caccttcatt 180
 ttgaagttcg ggttttttgg ttaagttaat ctgtacattc tgtttgccat tgttacttgt 240
 actatacatc tgtatatagt gtacggcaaa agagtattaa tccactatct ctagtgtctg 300
 acttttaaatc agtacagtac ctgtacctgc acggtcaccc gctccgtgtg tcgccctata 360
 ttgagggtc aagctttccc ttgttttttg aaaggggttt a 401

<210> 37
 <211> 401
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(401)
 <223> n = A,T,C or G

<400> 37
 cnnctntgna atggantnnt tgnctaaaan ganttgatga tgatgaanat ccctangang 60
 antaagcatg gantntgatc ntttntnng cactccttta cgacacggaa acangnatca 120
 ncatgatggg accaganacc ttatcaccna cgcgcacnga nctgactnat tccaaagagt 180
 tngngttacg gncatccggt cattgctcgt gccattgct gcagggtga tinctactggt 240
 gcttattatg ntggccctga ggatgctcca caatgaatat aagcatgctg catgatcagc 300
 ggcaacanat gctctgccgt ttgcactaca tctttcacgg acacnatntc gaanacgggc 360
 acnttgcana gttagacttg gaatgcatgg ngccggnan n 401

<210> 38
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 38
 aattggctca ctctotcaag gcaagcactg totcaaggca gtctcaaggc agagatgaca 60
 cagcaaaaaa cagaggggga gaaaaagtc tattattggc ttgtgattta caaaagccaa 120
 agtccttttag ataaaaggcc aggagtcgta ccaacataga taccaaatcc aggagaacac 180
 agaccagcga taagaggggac gcttcccat gaccagacc agcctaaagc ccctgtgggg 240

```
gcagccagtg gggagctgtc agaccttggg catggtggtc tttgagaatg ggtctgccct 300
tctctccctg accagttggg atagacacct gactggaatc cttgacactg gcaggtgttt 360
ctatgaacag agaggactgt gctgtcttc ctgaatccca a 401
```

```
<210> 39
<211> 401
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(401)
<223> n = A,T,C or G
```

```
<400> 39
tctggtangg agcaattcta ttatttggca ttgcatggct gggttgaatt aaaacagggg 60
gtgagaacag gtgagtctag aagtccaact ctgaaaagga ccactgtaca tttgaacaca 120
cggctgtgtt aaagatgctg ctaatgtcag tcactgggtg cactaaagga tctcttattt 180
tatgtaaaac gttgggaatg acaagatana actgatactc tggtaagtta ccctctgaag 240
ctacttcttg tgaataacta atgacagcat catcctgccg agcgaaagag gcaggcataa 300
gcaaggacaa attaaaaggg ggtaagagcc ttatcatgat gaggagtctt gttttgacat 360
cttgggaaaa gctgtccata gtgtgaagtc gtcaatttct c 401
```

```
<210> 40
<211> 401
<212> DNA
<213> Homo sapien
```

```
<400> 40
tctggtcacc caactcttgt ggaagagggg aattgagatc gagtactgaa tatctggcag 60
agaggctgga atccttcagc cccagagccc agggaccact ccagtagatg cagagagggg 120
cctgccaggg ggtcagggca gtgggtatca ctgggtgacat caagaatatc agggctgggg 180
aggcatcttt gtttcctggg gccctcctca aagttgctga cactttgggg acgggaaggg 240
gtagaagtag ggtgctcctt tttggagctg gagggaaatg acctggagac agagttgagg 300
cagtcgggct gtccaggttc taagcatcac agcttctgca ctgggctctg aggagattct 360
cagccagagg atcccagcct cctcctccct caaatgtcaa g 401
```

```
<210> 41
<211> 401
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(401)
<223> n = A,T,C or G
```

```
<400> 41
ctggactaaa aatgtccact atgggggtgca ctctacagtt tttgaaatgc taggaggcag 60
aaggggcaga gagtaaaaaa catgacctgg tagaaggaag agaggcaaag gaaactaggt 120
ggggaggatc aattagagag gaggcacctg ggatccacct tcttccttan gtccctcct 180
ccatcagcaa aggagcactt ctctaatacat gccctccgga agactggctg ggagaagggt 240
taaaaaacaa aaatccagga gtaagagcct taggtcagtt tgaaattgga gacaaactgt 300
ctggcaaagg gtgcganagg gagcttgtgc tcangagtc agcccgatca gcctcggggg 360
gtangtttct gaagtgtgcc attggggcct caccttctct g 401
```

```
<210> 42
<211> 310
```

<212> DNA

<213> Homo sapien

<400> 42

```

ggttcgacaa atccccaaaa atggcaaatt aagccctgtg acaaaaataag ttattggatc   60
atacagaaat agcccaaatc tggaaatttt gaattaaaaat tgtaatcctg taaaaacaagt   120
tttggggtga atggattttct ttaataccaa taatattttt aattcccacc acagatggat   180
ttgctgaata tgctaattgct gtgaatgaga aaacaatttt ggggtaggta taccacaag   240
taatctgatg acaaaaataaa ccacagactg atgtcaaatg gacaaaaaac tgaaaatatg   300
ctgtgagaaa                                     310

```

<210> 43

<211> 401

<212> DNA

<213> Homo sapien

<400> 43

```

aggtcactta cacttgtgac cagtgtgggg cagagaccta ccagccgac cagtctccca   60
ctttcatgcc tctgatcatg tgcccaagcc aggagtgcc aaccaaccgc tcaggagggc   120
ggctgtatct gcagacacgg ggctccagat tcatcaaatt ccaggagatg aagatgcaag   180
aacatagtga tcaggtgccct tggggaaata tccctcgtag tatcacgggtg ctggtagaag   240
gagagaacac aaggattgcc cagcctggag accacgtcag cgtcactggt attttcttgc   300
caatcctgcg cactgggttc cgacaggtgg tacagggttt actctcagaa acctacctgg   360
aagcccatcg gatttgtgaag atgaacaaga gtgaggatga t                                     401

```

<210> 44

<211> 401

<212> DNA

<213> Homo sapien

<400> 44

```

atccctgtaa gtctattaaa tgtaataaat acatacttta caacttctct tagtcggccc   60
ttggcagatt aaatctttgc aaaattccat atgtgctatt gaaaaatgaa ataaaacctc   120
agatgtctga attcttattt caaatacagt tatataatta ttttaaatta caatatacaa   180
tttctgttaa atacaactgt taagggatcc tgagaacaat tataagatta taataatata   240
tacaaactaa cttctgaaat gacatgggtt gtttccttcc caccctccta cctctcaaa   300
gagtttttgc atttgtgtt cctggttgca aaaggcaaaa gaaaatctaa aaatagttctg   360
tgtgtgtcca cgacatgctc gtcctttga gaatctcaaa c                                     401

```

<210> 45

<211> 401

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(401)

<223> n = A,T,C or G

<400> 45

```

gtgcctgctg cctggcagcc tggccctgcc gctgcctcag gaggcgggag gcatgagtga   60
gttacagtgg gaacaggctc aggactatct caagagattt tatctctatg actcagaaac   120
aaaaaatgcc aacagtttag aagccaaact caaggagatg caaaaaattc tttggcctac   180
ctatactgga atggtaaact cccgcgtcat anaaataatg caanaagccc agatgtggag   240
tgccagatgt tgcagaatac tcactatttc caaatagccc aaaatggact tccaaagtgg   300
tcacctacag gatcgtatca tatactcgag acttaccgca tattacagtg gatcgattag   360
tgtcaaaggc tttaaacatg tggggcaaa gatatccctt g                                     401

```

<210> 46
 <211> 401
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(401)
 <223> n = A,T,C or G

<400> 46
 gtcagaattg tctttctgaa aggaagcact cggaatcctt ccgaactttc caagtccatc 60
 catgattcan agatactgcc ttctctctct ctgggatttt atgtgtttct gatagtgaat 120
 tgttgatgta ttgtctactt tgcttctttt ctctttcaag acttgatcat tttatatgct 180
 gnttgagaaa aaaaagaact tttggttagca aggaggtttc aagaaatgat tttggatttt 240
 ctgctgcgga atttctcggc acctacctgt agtatggggc acttggtttg gttgcagagt 300
 aagaagggtg aagaatgagc tgtacttggt taagcagttg aaaccttttt tgagcaggat 360
 ctgtaaaagc ataattgaat ttgtttcacc cccgtggatt c 401

<210> 47
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 47
 ggtctgcagc aatgcacttc aaccatacat actgcttcca ctagctaata ccaaagtcag 60
 gttctcagat ccagacaaaat ggaggaaaag aacatttatg cttcogtttc agaaagccaa 120
 gtcgtagttt tggcccttcc tttctctaaa gtttattccc aaaaacaggt agcattcctg 180
 attgggcaga gaagaggata ttttcagccc acatctgctg caggatgtgc attttctccc 240
 atcttactg tgactagtaa agatctcacc acttctcttt ggaatttcca actttgcttg 300
 tgattgaatg tcaacttcgtg aatttgtatt atgtcagatc acttggcatt gctottccat 360
 atgcatcaag ttgccaggca ctaaacccaa tgttcatgaa c 401

<210> 48
 <211> 430
 <212> DNA
 <213> Homo sapien

<400> 48
 acataacttg taaacttttt ctgcttgggg gctgtaacag acagaagagt aaagactaca 60
 aggattttct gaagatgctt caatgaaaat catcatttcc tctttagtca tcccaagtct 120
 tggtttgaat aacttgggca tggacttata cagacctga accaccactg acttatcatt 180
 ggggtggcaga ccttgaaacc aagctctctg tgtaacttct gaaagtgcac caattctgat 240
 ttggctaaga acagaagaca aatactggga tcgtgattct gtgttatact ctagccacag 300
 catagcagct tctcgaacgg tttcttcttt ttctacattt aaattgtcac tactgagaat 360
 atctatcagt aggtcatgtg acagacctgc cccggggccg gcccgctcga tgcttgccga 420
 atatcatggt 430

<210> 49
 <211> 57
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(57)
 <223> n = A,T,C or G

<400> 49
 ggtattaaca atatcangca ctcatctctc ccctcttatg aaanggatna attttta 57

<210> 50
 <211> 327
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(327)
 <223> n = A,T,C or G

<400> 50
 gatggnggtn tccacaagan tnaangtnon tattaantan nncttgtaga nccacttnna 60
 ttaattggnn tatgnntgnc cttctgggtg ntgtngaagc ttcatatnnt ntttggacat 120
 cattacacgt cttagctctt tnaagnacaa ctttaatgct atatgaattt tgccattttt 180
 gctaacactg gtatgctccn ngcatccacc atnccacntg gaattattta ttncnttcat 240
 attaantttt tgtttaccaa atctnacttg acccgaacga aactttctgn gtattttang 300
 gcccncat tcttactttt caagcct 327

<210> 51
 <211> 236
 <212> DNA
 <213> Homo sapien

<400> 51
 cgtctcgaag aagcgtgca ggccgatgat ggactgcaag tctgccttgt cctcagttaa 60
 cttgttgaat tgctgaaca tgcggccac atcctgggca aactcctgtg gggagctgta 120
 gggaggtgac aacttctcct ggaggcggc acggatcagg gtcagatcca ggtgccacc 180
 gggctggtcc agggagaagg tggagtcgta gccagacctg cccgggcccgc cgctcg 236

<210> 52
 <211> 291
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(291)
 <223> n = A,T,C or G

<400> 52
 ctcacatcct gggtcggct gtagagctgc accatggtgc tgagcgcgcc ctcagctcc 60
 ttgtagatgt aaaggacggc gaaggagctg tagtctgtgt ccacgatgcg cacgtccagg 120
 tagccaagg ccgggactct gaagtgtcc ctcggagccc accttcangt actcgggcat 180
 ccacctggtt acagccttc gncctcggna actccatntg gactttacag gcgcctcc 240
 tctgtgggcc tgatggncct tgcaggacat nggaacacgg gagctcnctt t 291

<210> 53
 <211> 95
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(95)
 <223> n = A,T,C or G

<400> 53
 gtctgtgcag tttctgacac ttgttggtga acatggntaa atacaatggg tatcgctgan 60
 cactaagttg tanaanttaa caaatgtgct gnttg 95

<210> 54
 <211> 66
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(66)
 <223> n = A,T,C or G

<400> 54
 cctnaatnat ntnaatggta tcaatnnccc tgaangangg gancggngga agccggnttt 60
 gtccgg 66

<210> 55
 <211> 265
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(265)
 <223> n = A,T,C or G

<400> 55
 atctttcttc tcagtgcctt ggcntgttg agtctatctg gtaacactgg agctgactcc 60
 ctgggaagag aggccaaatg ttacaatgaa cttaatggat gcaccaagat atatgaccct 120
 gtctgtggga ctgatggaaa tacttatccc aatgaatgcc gtgttatgtt ttgaaaatc 180
 ggaaacgcca gacttctatc ctcatc aaa aatctgggcc ttctgaaaa ccagggtttt 240
 naaaatccca ttcnngtcnc cggcg 265

<210> 56
 <211> 420
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(420)
 <223> n = A,T,C or G

<400> 56
 gagcgccgc ccgggcaggt cctcgcggtg acctgatggg atttcaaaac cttggttctc 60
 agcaaggccc agatttttga atgangatag aagtctggcg tttccgattt tcaaaacata 120
 acacgcattc attgggataa gtatttccat cagtcccaca gacnggggtca tatatcttgg 180
 gtgcattcat taagttonnt tgttaacatt tgggcctctc tttcccangg gaattcagct 240
 ccagttgtt taccaanatt naactccacc ggggccaaag gcncttgaaa aaaaaanaa 300
 ttccttgtt accttcttgg ggcttnaagt tctggcgtec aaaagttcaa tttgaaaact 360
 gcaccgcact taccacgtct cttnagaan cctggggaca cctcggccgc gaccacgcta 420

<210> 57
 <211> 170
 <212> DNA

<213> Homo sapien

<400> 57

gaagcggagt	tgcagcgct	ggtggccgcc	gagcagcaga	aggcgcagtt	tactgcacag	60
gtgcatcact	tcatggagtt	atgttgggat	aaatgtgtgg	agaagccagg	gaatcgcccta	120
gactctcgca	ctgaaaattg	tctctccaga	cctcggccgc	gaccacgcta		170

<210> 58

<211> 193

<212> DNA

<213> Homo sapien

<400> 58

attttcagtg	cgagagtcta	ggcgattccc	tggtttctcc	acacatttat	cccaacataa	60
ctccatgaag	tgatgcacct	gtgcagtaaa	ctgcgccttc	tgctgtctcg	cggccaccag	120
gcgtgcaac	tccgttcat	cggttcgcc	cagctccgcc	attgttcgcc	acctgcccg	180
gcggccgctc	gaa					193

<210> 59

<211> 229

<212> DNA

<213> Homo sapien

<400> 59

cgcaactctc	gagcatttat	atacaatagc	aaatcatcca	gtgtgttgta	cagtctataa	60
tactccaaca	gtctcccatc	tgtattcaat	ggcgccaacc	aatacagtc	tttgtttgga	120
tgctggggag	agtaatccct	acccaagca	ccatatagat	aagaaaacc	tctccagttg	180
agctgaacca	cagaagggtt	gctgatacct	gcccggcg	ccgctcgaa		229

<210> 60

<211> 340

<212> DNA

<213> Homo sapien

<400> 60

tcgagcggcc	gcccgggcag	gtcctctaaa	gatcaaaaca	cccctgtcgt	ccaccctcct	60
cccactccag	ggaagctgtg	gtcatggttg	tgtgtggaac	atcagcaaac	cgtctgtggt	120
tcagctcaac	tggagagggt	tttcttatct	atatggtgct	tggggtagg	attactctcc	180
ccagcatcca	aacaaaggac	tgtattgggt	ggcgccattg	aatacagatg	ggaaactgtt	240
ggagtattat	aaactgggtac	aacacactgg	atgatttgct	attgtatata	aatgctcgag	300
aattgcggat	cacctatgga	cctcggccgc	gaccacgctg			340

<210> 61

<211> 179

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(179)

<223> n = A,T,C or G

<400> 61

tttttgtgac	ggacgnnttg	agtacatgtc	ccaggatcac	atccagcagc	tagagtggct	60
gggacaagct	ggcgngggcc	aagcactggt	gaaacnatag	gggtctgggn	gnactcgggt	120
tnaagtgggt	ggtccgantn	ttnataacct	tgtcngaacc	nancatctcg	gttgncang	179

<210> 62

<211> 78
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(78)
 <223> n = A,T,C or G

<400> 62
 agggcggttcg taacgggaat gccgaagcgt gggaaaaagg gagcggtggc nggaagacgg 60
 ggatgagctt angacaga 78

<210> 63
 <211> 410
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(410)
 <223> n = A,T,C or G

<400> 63
 cccagtact tggggaggct gaggcaggga gaatcctttg aaccggngg gtgggaggtt 60
 gcagtgagcc cgagatagca ccattgcact tccancatgg ggtggacaga gtgagactct 120
 atctcaaaaa aaaagaaaag aaaaggaaaag agattagatt aagattaagt acctacttcc 180
 tntccatttt caagtcctga aaatagagga tcagaaatgt tgagggaattc tttaggatag 240
 aaagggagat gggattttac ttatggggaa agaccgcaa taaagactgn aacttaacca 300
 cattcccaa gtgnaagggtg ttacccaaga agtaggaacc cttttggctn ttacettacc 360
 ttccngaaaa aaacttattn cttaaaatgg aaacccttaa agcccgggca 410

<210> 64
 <211> 199
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(199)
 <223> n = A,T,C or G

<400> 64
 cttgtttctca aaaagggtcaa agggagcccg acgaggaata aatagcaatg ccctgaattc 60
 caactgacct tctacagaaa agtgcttgac tgccaagtgg tcttcccagt cattagttag 120
 gctctttag aattctccat actcctcttg ggngangnca tnagggtttn nggcccaaat 180
 aggntgggcc tngttaagt 199

<210> 65
 <211> 125
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(125)
 <223> n = A,T,C or G

<400> 65
 agcggtagacg ttctgtcctg gcatcatcat tcattgtagt atggtaata ggtgccatga 60
 aactcagtag cttgctaagg acatgaaacc gaagtttcct gcctttgctg gcctngtngn 120
 gggta 125

<210> 66
 <211> 204
 <212> DNA
 <213> Homo sapien

<400> 66
 attcagaatt ctggcatcgg tattttctata aagtcacatca gtttagagcag gagcaggccc 60
 ggagggacgc cctgaagcag cgggcggaac agagcatctc tgaagagccc ggtctgggag 120
 aggaggaaga ggagctcatg ggcatttcac ccatatctcc aaaagaggca aaggttcctg 180
 tggacctcgg ccgcgaccac gcta 204

<210> 67
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(383)
 <223> n = A,T,C or G

<400> 67
 tcagggcctc caggcagcca gttttgcagg anattcagca cctagngtct tcctgcctna 60
 cgctcccaag aacctgctcc tgcaggggga acatcagaac tcgtccttga tgtcaaaatg 120
 gggctggtct tnaggcttga agtccagggt agggctgcca tcctcattga gaattctccg 180
 ggcagtgtan ccgacgatgg ggtatttggc tttgtacact ttggtgaaaa cctnatccag 240
 ggctccagct tccttggccg tganaccgct antgtcatgg gtgaggtctg caggatccaa 300
 ggacatcttg gctacccctc tagtggagtc cttccccgtc aaggcattgt aaggggctcc 360
 tcgtccataa aactcctttt cgg 383

<210> 68
 <211> 99
 <212> DNA
 <213> Homo sapien

<400> 68
 tcacatctcc tttttttttt aactttttca aatttttgtg ttaaatagaa ggctaaagg 60
 ttagatttaa gtttctgcta cattgaccct atttaccta 99

<210> 69
 <211> 37
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(37)
 <223> n = A,T,C or G

<400> 69
 gagaaggacn tacggncctg ntantanang aatctcc 37

<210> 70

<211> 222
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(222)
 <223> n = A,T,C or G

<400> 70
 gtgggtcatt tttgctgtca ccagcaacgt tgccacgacg aacatccttg acagacacat 60
 tcttgacatt gaagcccaca ttgtcccag gaagagcttc actcaaagct tcatggcgca 120
 tttcgacaga ttttacttcc gttgtaacgt tgactggagc aaaggtgacc accataccgg 180
 gtttgagaac acccantcac ctgccccggg cggccgctcg aa 222

<210> 71
 <211> 428
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(428)
 <223> n = A,T,C or G

<400> 71
 caggagtatt ttgtagaaaa gccagaagag cattagtaga tgtatggaaa tatacggtag 60
 ggcacacgct gacagtactt ttcccagcc acgccgtatt tcttcttaca gtggtactcg 120
 tcacagctt ctcggtggac aagcaacatg gtgaaataaa ttatgtagaa ataaggcaga 180
 atgtggttaa aaccacatgg gagggaccac gccaaaggcca tgatgagatc acccaagtaa 240
 ttgggtggc gaacaaagcc ccaccatcca gaaactagaa naatttttcc cgttgaaata 300
 tgaatggntt ttaaattgtc aagcttttga tcaactggga ttttccgaa tgccttttcc 360
 tganaattgc accttnggaa gantccttac cccaagnttc agaccattat ttnaaaagcn 420
 ttggaact 428

<210> 72
 <211> 264
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(264)
 <223> n = A,T,C or G

<400> 72
 gaataaagag cttactggaa tccagcaggg ttttctgccc aaggatttgc aagctgaagc 60
 tctctgcaaa cttgatagga gagtaaaaag ccacaataga gcagtttatg aagatcttgg 120
 aggagattga cacacttgat cctgccagaa aatttcaaag acagtagatt gaaaaggaaa 180
 ggctttggta aaaaaaggtt caggcattcc tagccgantg tgacacagtg gagcanaaca 240
 tctgcangag actgancggc tgca 264

<210> 73
 <211> 442
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(442)
 <223> n = A,T,C or G

<400> 73
 ggccaatccg gcgggtatca gagccatcag aaccgccacc atgacgggtg gcaagagcag 60
 caagatgctg cagcatattg attacaggat gaggtgcac ctgcaggacg gccggatctt 120
 cattggcacc ttcaaggctt ttgacaagca catgaatttg atcctctgtg actgtgatga 180
 gttcagaaag atcaagccaa agaacttcaa acaagcagaa agggaagaga agcgagtcct 240
 cggctctgng ctgctgccaa gggagaatct ggtctcaatg acngtagaag gaccttcttc 300
 caaagatact ggnattgctc gagttccact tgctggaact tcccggggcc caaggatcgc 360
 aaggcttctg gcaaaagaaa tccanacttn ggccgggacc acctaanca attcacacac 420
 tggcgccgct actagtggat cc 442

<210> 74
 <211> 337
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(337)
 <223> n = A,T,C or G

<400> 74
 ggtagcagcg tctccagagc ctgatctggg gtcccagata cccaggcagc agcagccctg 60
 gaggtaaaagg gcaagctccc caatgtgagg ggagacccca ttctgtgtca gccaggcttt 120
 cagaggagat agcaggctga gggagccaac gaagaagaga ctgccancag gggaaggact 180
 gtcccgccaa ggacagaact gattcagggg ggtcaatgct cctctagaga agagccacac 240
 agaactgggg ggtccaggaa ccatgaanct tggctgtggt ctaaggagcc aggaatctgg 300
 acagtgttct gggtcatacc aggattctgg aattgta 337

<210> 75
 <211> 588
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(588)
 <223> n = A,T,C or G

<400> 75
 catgatgagt tctgagctac ggaggaaccc tcatttcctc aaaagtaatt tattttttaca 60
 gcttctgggt tcacatgaaa ttgtttgcgc tactgagact gttactacaa actttttaag 120
 acatgaaaag gcgtaatgaa aaccatcccg tccccattcc tcctcctctc tgagggactg 180
 gagggagacc gtgcttctga ggaacaactc taattagtag acttgtgttt gtagatttac 240
 actttgtatt atgtattaac atggcgtgtt tatttttgta ttttctctg gttgggagta 300
 tgatatgaag gatcaagatc ctcaactcac acatgtagac aaacattagc tctttactct 360
 ttctcaaccc cttttatgat tttaataatt ctcaactaac taattttgta agcctgagat 420
 caataagaaa tgttcaggag agangaaaaga aaaaaaatat atgttcccca tttatatatta 480
 gagagagacc cttantcttg cctgcaaaaa gtccaccttt catagtagta ngggccacat 540
 attacattca gttgctatag gncagcactg aactgcatta cctgggca 588

<210> 76
 <211> 196
 <212> DNA
 <213> Homo sapien

<400> 76
 gcggtatcac agcctggccc ccatgtacta tcggggggcc caggctgcc tctgtgtcta 60
 tgacatcacc aacacagata catttgacg ggccaagaac tgggtgaagg agctacagag 120
 gcaggccagc cccaacatcg tcattgcact cgcgggtaac aaggcagacc tggacctgcc 180
 cgggcggccg ctcgaa 196

<210> 77
 <211> 458
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(458)
 <223> n = A,T,C or G

<400> 77
 agtagagatg gggtttccact gtgttaacca ggatgtgtctt gatctctctgg cctcgtgatc 60
 tgcccgcctc ggccctcccaa agtgttgga ttacaggcgt gaaccaccgc acccgccag 120
 aaatgttagt ttttccctat tctctctcct ttttccctatt atatacttg tcaaccagac 180
 agccatccta cccanaatg gtaatgcctc ttcattcctc atatgagga ataaaagaga 240
 aaaaagcttt tggaaaacat ccacttatct aatcatccca aatatgtaat caaaagtata 300
 caactcatgt gaagaatata ctggtaaaat gttantatag gccaaaggat cttgaattcc 360
 tatatagaaa gctggtaaatt gcccttttgg ctggaaccgc catcttcenn taattcnccc 420
 aaaatgacca aacacaaagg gnaagangan aagccccc 458

<210> 78
 <211> 464
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(464)
 <223> n = A,T,C or G

<400> 78
 tccgcaaatt tcttgccggc aagggtcccag catttgaggg tgatgatgga ttctgtgtgt 60
 ttgagagcaa cgccattgcc tactatgtga gcaatgagga gctgcgggga agtactccag 120
 aggagcagc ccagggtgtg cagtgggtga gctttgctga ttccgatata gtgccccag 180
 ccagtacctg ggtgttcccc accttgggca tcatgcacca caacaaacag gccactgaga 240
 atgcaaagga ggaagtgagg cgaattcttg ggctgctgga tgcttacttg aagacgagga 300
 cttttctggt gggcgaaaga gtgacattgg ctgacatcac agttgtctgc accctgttgt 360
 ggctctataa gcaggntcta gaaccttctt ttgcgangac cttcggccg accacgctta 420
 acccaaattc cacacacttg cnggccgtac taanggaatc ccac 464

<210> 79
 <211> 380
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(380)
 <223> n = A,T,C or G

<400> 79

```

ctgtatgacc agtttttcca tctccttcac ttctaccttg atcagctcga agtccagttc      60
agtgttaagaa atggtatcct tctccatgat gtcaattcgg acagtttaggt ttaacagttt    120
cttttcatac acactaatta attggacata ttccctcact ttanaaagtt ctttctcaaa    180
cttctganaa aagaacatga actgtgaatt ccaagcgttc ccaactctgtc cacgggaaaa    240
ggtggtgtct ggcagggaag cagaacactg gcagggtccac ggtcatccac ggagccggtg    300
aaattgggaa aacaactggg acacagaacc tccgctgcct aagctgcggn tgggagcttg    360
gaaccgcgacc tggaactgga

```

```

<210> 80
<211> 360
<212> DNA
<213> Homo sapien

```

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<220>
<221> misc_feature
<222> (1)...(360)
<223> n = A,T,C or G

```

```

<400> 80
tcgagcggcc gcccgggcag gtctcagag agctgtttgt tncgcttctt caaaaactcc      60
tattctccac ttctgctaaa ggactggatg acatcaattg tgatagcaat atttgtgggt    120
gttctgtcan ncancatcgc actcctgaac aaagtagatg ttggattgga tcagtctctt    180
tccaccaga tgactcctan atgggtgatn atttcaaacc catcantcag tacctgcatg    240
cgnggtccgc ctgtgtncct tgctctgcag gangggcncct actacacttc ttcnagggg    300
canaacatgg tgtgcngcgg ccatgggctg gcaacantga ttcnctgctg caccanatan    360

```

```

<210> 81
<211> 440
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(440)
<223> n = A,T,C or G

```

```

<400> 81
acgtggtccg gcgagtctga cctgcagata tgaactcctt gggaaaccta cattctgcct      60
cagacatact gggggcaaat ggctttaaaa gtctggctoa gggagccaag attacagaaa    120
nccgttgagt cncacatacat ggacactgac aaaggaactg aagatatcca aacaagccct    180
cctggtcccg ngcctgcata aagatcgga ncggaacggt accngacgtc tgtggtcagg    240
ggttggtgaa aattggaaaa aaccagtcct gccacattg acagggaagc ctcaacggaa    300
attgaacaga tngtcttacc accagtctcc cctcctggat cntgtctcgg ctcnngggan    360
tcagtgatca gtcctttcag gtggaagaag caaagaagat caacaanaag cngatcctct    420
cacctgntac cagcatatgg

```

```

<210> 82
<211> 264
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(264)
<223> n = A,T,C or G

```

```

<400> 82
agcgtgggtcg cggccgangt cctgacattc ctgccttctt atattaatta tacnaataaa    60

```

acaaaatagt gttgaagtgt tggagcggcg aaaatttttg gggggtggta tggacagaga	120
atgggcgatn ttctcanggc tgcttcaagt gggattgggg cngcgtggga tcatncagt	180
gganagattn cnetgaccgg antctnttgg tanggatnat cttgtgggga tgtgcaagag	240
ncattcgtct cctgaatgan tggg	264

<210> 83
 <211> 410
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(410)
 <223> n = A,T,C or G

<400> 83	
ancgtggtcg cggccgangt ccacagttgt gggagagcca gccattgtgg gggcagctcc	60
acaggtaaga ctctgttcct gagcagcgca catcatccag gacaatgggt cctgagccct	120
gaccaaaccg ggcatttcct ggggctgaca tggcccagcc acagcccant tgctgcaga	180
cgaaattggc atcattgggtg tcccagtant catcacacac ggtgccccag gaacctccgg	240
tatangaact ccaactggcg tcnanacctg tcgcctccat tcncagcct cagggggcaa	300
actgggattc agatccttct gtgggtacag gtggtgatat cctgacaggc caactttctg	360
gcctgagtgt tgactgangc tgggcagacc tgcccggcg gccgctcgaa	410

<210> 84
 <211> 320
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(320)
 <223> n = A,T,C or G

<400> 84	
tcgaacggcc gcccgggcag gtctgccccca ggtgtatcca tttgccggcg atctctatca	60
naaggagctg gctaccctgc nncgacgaan tctgaanat aatctcacc nccagatct	120
ctctgtcgca atggagatgt cgtcatcggt ggnccctgat acagggcatt ggactcagag	180
anangtnanc acagtgtnga agcgattgan nnagttcagt tgctggtctt acccgatntt	240
ggaaggaagg aaaacgtgtt angacgtatc tcgatgnant tgaccaaanc tgaangctnc	300
agggggcatc gcaaaganan	320

<210> 85
 <211> 218
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(218)
 <223> n = A,T,C or G

<400> 85	
tcgagcggcc gcccgggcag gtctgctgcc cgtgctgggt ccattgcccc atgtgaagtc	60
actgtgccag cccagaacac tgggtctcggg cccgagaaga ctccctttctc caggctntan	120
gtatcaccac taaaatctcc aggggcacca tnganatcct ggggtgtccgc aatgttgcca	180
atgtctgtcc gcnnattggc tacccaactg ttgcatca	218

<210> 86
 <211> 283
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(283)
 <223> n = A,T,C or G

<400> 86
 tcgacttctt gtgaagggtt tgganaaata tgtatcagtt cgttttattt gggtattcaa 60
 taatatcctt ggtgataatg ctgactccat ggcttctgac cccaaaaatt gacctgctg 120
 ccactggttg tagccctgag attgattttt gtagccacga ttgtttctc gtcctctgaa 180
 gtntctggtt tanttccctc tgtngggcat tccctctgt tgtanttccc tctgtttgan 240
 taactaccac ggccaggaaa aacaggggca cgaaggtatg gat 283

<210> 87
 <211> 179
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(179)
 <223> n = A,T,C or G

<400> 87
 agcgtggtcc cggccgatgt ctttctgtgt aagtgcataa cactccacat acttgacatc 60
 cticangtca cgggccagct ntccagcant ctctggagtg ataggctact gtntgttctn 120
 ggcaagtgtc tcaanaatac aggggtcttc tctgagatga ntttcagtcc cgaaccctc 179

<210> 88
 <211> 512
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(512)
 <223> n = A,T,C or G

<400> 88
 tcgagcggcc gcccgggcag gtcctanacan agaatcacca aatttatgga gagttaacag 60
 gggtttaaca ggaangaagt gccttttagta agttctcaag ccagangctg gaggcagcag 120
 ctaaatcaga ggacaggatc ctccagtgaat gtgagccatt cggggtggca tgtcactcca 180
 ggaataagca caacttanaa acaaatgatt tcgtangata gcacagtgcac attggtgcac 240
 ttgtgaacct gagggccactg tgtcaaactg tgcaactggt gtgaatagg aganccaaaa 300
 attatgtcct actgggtaat gagctttcaa tgggctcgat cctctcacnc tgaaagctct 360
 gtagagcagc tcagaaccac aaccactccc aacattgacc cttctggggg tactgtctgt 420
 ggcaccaca ggaaggagct ggagatcccc attaggactg tccaccacaca cttgaagcca 480
 caaaactgca cctcggccgc gaccaccgct ta 512

<210> 89
 <211> 358
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(358)
 <223> n = A,T,C or G

<400> 89
 tcgagcgggc cgcccgggca ggtctgccag tccccatccc agacattctt tgcattctaag 60
 ctgangtctg aactgagtg ggtgggctg tgtttccatc ctcaactc cagtgaagccg 120
 ggtgtggcgc tggcctgcgt ctctctggcg gttagtgtg ttggcatcat ccacctttt 180
 caaaacaaaa gcactggact gaagaanaat ccnccctgt ntccaccag tccatggttt 240
 ttaataaaag ggttatnnaa gttgancaag ncatcaccac acacaancct aagaacnttt 300
 ttcacnntc cccaaaacaa acccncacc tgggaactcc ggcgcgaac cagccta 358

<210> 90
 <211> 250
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(250)
 <223> n = A,T,C or G

<400> 90
 cgagcgccg cccgggcagg tctggatggg gagacggact ggaactgcgg cttcccgtag 60
 cctgcacgca caaggctccc caggccgcc gacctcttc agattcgatc gtatgtgtac 120
 gcacnaagag ccaaatattg acattcacaa cttcgtggga atnttaccac anaagactgc 180
 gacccccga tcaggcgana gcctgagcat agaagaacac cgctgtgggc ttggcactgt 240
 gggncctatc 250

<210> 91
 <211> 133
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(133)
 <223> n = A,T,C or G

<400> 91
 tcgagcggcc gncggggcag gtcccggtg gttgtttgcc gaaatgggca agttcntnaa 60
 ncctgggaag gtggtgcntg tncgtgctg acgctactcc ggacgcnaag ctgtcntcgt 120
 gangancatt gat 133

<210> 92
 <211> 232
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(232)
 <223> n = A,T,C or G

<400> 92
 agcgtggctg cggccgangt ctgtcacttt gcgggggtag cggtaattc cagccaccag 60
 agcatggctg tagggcgcat ctgaggtgcc atcatcaatg ttcttcacga tgacaagctt 120

```

tgcgtccgga gtagcgtcca gccaggacaa gcaccacett cccacgtntt cangaactng 180
cccatttcgg cataaccacc cgggacctgc cggggcggn c gtcgaaaag cc 232

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<210> 93
<211> 480
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(480)
<223> n = A,T,C or G

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```

<400> 93
agcgtgggtc gcggccgang tctgtangct caccggccag agaagaccac tgtgagcatt 60
ttgccgtata tcctgccctg ccattttgttc actttttaaa ctaaaatagg aacatccgac 120
acacaccgtt tgcacgtct tctcccttga tattttaagc attttcccat gtctgagatt 180
tctcagaaac atgtttttta caattgtact atttagtcat ngtccattta ctataattta 240
tctgaccatt tccctactgt taaaatactt aagacggttt ctgatttttc cactatttaa 300
ataatgctgt gatgaatata tttaaaatct tctgatttct tacttttttc ccccttagat 360
gcctggaagt ggtattttga ggtgaaagag tttgttcatt ttgaanatat ttctgtctct 420
ctctcgacct gatgtgtana cgctcacttc cagttagcag aaccacctta gtttgtgtct 480

```

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<210> 94
<211> 472
<212> DNA
<213> Homo sapien

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```

<220>
<221> misc_feature
<222> (1)...(472)
<223> n = A,T,C or G

```

```

<400> 94
tcgagcggnc gcccgggcag ggtctgatgt cantcacaac ttgaagggat gccaatgatg 60
taccaatccn atgtgaaatc tctcctctta tctcctatgc tgganaaggg attacaaagt 120
tatgtggcng ataannaatt ccatgcacct ctantcatcg atgagaatgg agttcatgan 180
ctgggtaacn atggtatctg aacccgatac cangttttgt ttgccacgat angantagct 240
tttatttttg atagaccaac tgtgaacctt ccacacgtct tggacnactg anntctaact 300
atccncaggg ttttattttg cttgttgaa ctttnacgt nttgcaaact tccaagatc 360
canatgactg antttcagat agcattttta tgattccan ctcattgaag gtcttatnta 420
tntcnttttt tccaagccaa ggagaccatt ggacctcggc cgcgaccacc tn 472

```

```

<210> 95
<211> 309
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(309)
<223> n = A,T,C or G

```

```

<400> 95
tcgagcggcc gcccgggcag agtgtcgagc cagcgtcgcc gcgatgggtg tgttggagag 60
cgagcagttc ctgacggaac tgaccagact tttccanaag tgccggacgt cgggcancgt 120
ctatatcacc ttgaagaant atgacggtcg aaccaaaccc attocaaaga aangtactgt 180
gganggcctt gancccgag acaacnagt tctgttaaga actaccgatn ggaaanaana 240

```

anatcagcac tgtgggtgag ctccnagga agttaataan tttcggatgg gcttattcna 300
acctcctta 309

<210> 96
<211> 371
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(371)
<223> n = A,T,C or G

<400> 96
tcgagcggcc gcccgggcag gtccaccact cacctactcc ccgtctctat agatttgcc 60
gttctgggca gttctcagca atggaatcct actgtgtatc tttttgtgac tggttcttta 120
actcagcatc acattttcaa ggttcaccca tgcctgcagc tggctccgta ctgggtgacag 180
tacttcattt ctctctccct tttgttcaga ccaagggtctc cctctgtccc caaggctaaa 240
gtgcagttgg tgtgatcatg gctcactgca gcctcaaact cctggactca aacagtcctc 300
ccatctcagc ctcccaaagt gctgatntta taagttgcaa gccctgcacc cagcctgtat 360
ctccagtttg t 371

<210> 97
<211> 430
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(430)
<223> n = A,T,C or G

<400> 97
tcgancggcc gcccgggcag gttnttttn tttntttttt nnnngntagt atttaaagan 60
atttattaaa tcatcttacc accaaaatgg aaacatnttc caactagaaa catgcnacca 120
tcatcttccc cagtccagtc ncaangtcca atatttttct tgcctctgca gataaaaagt 180
tcnnattttt ataccactc ttactcccc ccaaaatttt aattcngtcc tncctaaaa 240
ttncnccggg taacaantta ccaaaatggc naaccaatta ttttaanaaa agttgcncn 300
ttnaaaangg aaactttntg gcaanttanc ctcttttccc ttcccacccc ccantttaag 360
gggaaaacaa tggcactttg ctcttgcttn aaccctaaat tgtcttccaa aaactattaa 420
aatgttnaa 430

<210> 98
<211> 307
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(307)
<223> n = A,T,C or G

<400> 98
tcnaacggcc gccngggcnn gtctngcngc acctgtgcct canccgtcga tacctggtcg 60
attgggacan ggaanacaat ntggttttca gggaggccac anatttgag aaacggatga 120
attctccttt attccgaant cagctccttg gtctccgtag anggtgatct tgaaattctc 180
ctgttttgaa aactttcttg aanaaacctt acctgctggg tgtatttggt ctcccactcg 240
gacaagtact cgttatccnn ggtactctta atgtgccac gtnaactccc cgggntggca 300

actggaa

307

<210> 99
<211> 207
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(207)
<223> n = A,T,C or G

<400> 99
gtccnggacc gatgttgca aganntttct tgggtccanta gggtcnaaaa aatgataanc 60
naggtntanc acgtgaagat ntntatanag tcttantnaa aaCncntaga tctgnatgac 120
gataantcga anacnggggg aggggntgag gngaggtggn gtganggaag anntgttgat 180
aaaagannna gntgataaga annagac 207

<210> 100
<211> 200
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(200)
<223> n = A,T,C or G

<400> 100
acntnnacta gaantaacag ncntttctang aacactacca tctgtnttca catgaaatgc 60
cacacacata naaactccaa catcaatttc attgcacaga ctgactgtaa ttaattttgt 120
cacaggaatc tatggactga atctaatgcn nccccaaatg ttgttngttt gcaatntcaa 180
acatnnttat tccancagat 200

<210> 101
<211> 51
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(51)
<223> n = A,T,C or G

<400> 101
tcgagcggcc gcccgggcag gtctgaccag tgganaaatg cccagttatt g 51

<210> 102
<211> 385
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(385)
<223> n = A,T,C or G

<400> 102

```

aacgtggtcg cggccgaagt ccatggtgct gggattaatc cactgtgacn gtgactctga 60
gttgagtgtg ttttcaatct tctccaagcc tgtggactca tctccacat cctgggtag 120
taggatgaac atgctgaaga tgctnatttt gaaaaggaa cctatgaatc ttacaattga 180
atactgtcaa tgtttcccca tnacagaacg tggnccccca aggttccatc atctgcactg 240
ggtttggtg tttctgtctt gttgactctt gaaaaggac atttctttt gttttcttga 300
attcanggaa attttcttca tccactttgc ccacaaaagt taggcagcat ttaaccccca 360
anggattttg ggtctgggtc cttcc 385

```

```

<210> 103
<211> 189
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(189)
<223> n = A,T,C or G

```

```

<400> 103
agcgtggtcg cggccgaagt ctgcagcctg ggactgaccg ggaagctctg attatttacc 60
caccacaggt angttgtgtt ctgaatctca agttcacagg ttaaggctac agcatcctca 120
tctccacgg ggttganttt gttgctggtg atgaanggtt tggggtggct ctgcataact 180
gttgatctc 189

```

```

<210> 104
<211> 181
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(181)
<223> n = A,T,C or G

```

```

<400> 104
tcgagcggcc gcccgggcag gtccaggtct ccaccaange accaccgtgg gaagctggta 60
attgatgcc accttgaagc cnntggggca ccaccncca actggatgct gcgcttggtt 120
ttgatgggtg caatggcaca ttgactcttt tgggaaccac ttcaccacgg tacaacaggc 180
a 181

```

```

<210> 105
<211> 327
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(327)
<223> n = A,T,C or G

```

```

<400> 105
tcgagcggcc gcccgggcag gtcttctgtg gagtctgcgt gggcatcgtg ggcagtgggg 60
ctgccctggc cgatgctcan aacccagcc tctttgtaaa gattctcatc gtgganatct 120
ttggcagcgc cattggcctc tttgggttca tcgtcgcaat tcttcanacc tccanaatga 180
anatgggtga ctanataata tgtgtgggtg gggccgtgcc tcaattttat ttattgctgg 240
tttctctggg acagaactcg ggcgcgaaca cgcttanccg aattccaaca cactggcggg 300
cgttactagt ggatccgagc tcggtac 327

```

<210> 106
 <211> 268
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(268)
 <223> n = A,T,C or G

<400> 106
 agcgtggtcg cggccgangt ctggcgtgtg ccacatcggt cccacctcgc ttacaaaaac 60
 agtcctgaac ttnatctaataaaaattattg tacacnacat ttacattaga aaaaganagc 120
 tgggtgtang aaaccgggcc tgggtgtccc tttâagcgaa ngtggctcca cagttggggc 180
 atcgtcgctt cctcnaagca aaaacgcaa tgaacccca agggggaaaa aggaatgaag 240
 gaactgnccn gggangnccg ctccgaaa 268

<210> 107
 <211> 353
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(353)
 <223> n = A,T,C or G

<400> 107
 tcgagcggcc gcccgggcag gtggccaggc catgttatgg gatctcaacg aaggcaaaca 60
 cctttacacn ctagatgggtg gggacatcat caacgccctg tgcttcagcc ctaaccgcta 120
 ctggctgtgt gctgccgcag gccccagcat caagatctgg gatttanagg gaaagatcnt 180
 tgtnnatgaa ctgaancnta aattatcagt tccannacca ngcaaaaacc accngtgca 240
 ctccctggcc tgggtctgtg atgggacctc gggcgcggaac acgctnancc caattccanc 300
 acactgggcg gncgttacta ntggatccga actcnggtac caancttggc gtt 353

<210> 108
 <211> 360
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(360)
 <223> n = A,T,C or G

<400> 108
 agcgtggtcg cggccgaagt cctggcctca catgaccctg ctccagcaac ttgaacagga 60
 naagcagcag ctacatcctt aaggcccgga aagttagatg aagatttgga tcctgcattg 120
 ncctgcctcc cacctatctc tccnaatta taaacagcct ccttggaag cagcagaatt 180
 taaaaactct ccnctgccc tnttgacta cacaccnacc gggaaaacct tttcanaat 240
 ggcacaaaaa tncnaggga tgcatttcca tgaangaana aactgggtta cccaaaatta 300
 ttgggttggg gaaatccngg gggggttttt aaaaaagggc aancnccaa anaaaaaac 360

<210> 109
 <211> 101
 <212> DNA
 <213> Homo sapien

aaaggtcaat	tggtcncnc	atgaaanaag	ataaattgtt	catccatcac	tnctgaacca	180
tccaaaacgc	cggcgggaatt	attnccccgt	tattatgggg	aacggaattt	tnaataaatt	240
tggaangaa	tggtgtttt	attgttttgt	tttccccctt	tcttggcatt	gattgggccc	300
caatggggcc	cctcgctcan	aanntgcccc	ggggccggcc	gctccaaaac	cgaaattccc	360
anccacactt	ggcgggcccgt	tactanttgg	atccgaactc	ggtta		405

<210> 113

<211> 401

<212> DNA

<213> Homo sapien

<400> 113

ggatagaaga	gtatatgggt	ttggcaccac	gggggtggata	ggcaaaacat	ttggttgata	60
aggcgagat	tctgaactaa	cttgtaagc	ttgtctggtt	ttaggacagg	taaaatgggg	120
gaatggtaag	gagagtttat	aggttttagg	agcccatgct	gtagcaggca	agtataaca	180
ggctttaatc	ctttcaaagc	atgctgtggg	atgagatatt	ggcatttgag	cggggtaagg	240
gtgattaggt	tttaatgaga	tggttaaggg	tgcattgatcc	ggcccgccaa	ggaagggaag	300
tagaggtatc	ttataacttgt	gggggttaagg	tgggggggat	ataagaggga	ggacgccaaa	360
ggaggctttg	gattaggaat	aagggggcggc	aatgagatgc	a		401

<210> 114

<211> 401

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(401)

<223> n = A,T,C or G

<400> 114

angtccacag	gangcangag	gccaggctcc	gtcccancca	gtccatgatg	ttgaagagga	60
ggaagcagca	catgggggtt	aagaactgac	tccacttccc	aggactgggt	gagctgggtca	120
ccatggctgt	ggtggcgggg	aagacggaca	gggtgacttc	tggaagacag	tgaagactga	180
aggttttct	ggcttctggg	gtcatctgg	ctctgattcc	ggctccttct	ccagggtcaag	240
atccagggtt	cagagctact	ttcttggggg	actactnggg	aatcccgttc	tcatctgggg	300
gtngaggggg	gacggggnaa	gggncatgct	tgtgaccag	gtttcccacc	tcggcccgcg	360
accacgctaa	ggcccgaatt	ncagcacact	tggcgggccc	t		401

<210> 115

<211> 401

<212> DNA

<213> Homo sapien

<400> 115

atccctgtaa	gtctattaaa	tgtaataaat	acatacttta	caactttctt	tagtcggccc	60
ttggcagatt	aaatctttgc	aaaattccat	atgtgtctatt	gaaaaatgaa	ataaaacctc	120
agatgtctga	attcttattt	caaatacagt	tatataatta	ttttaaatga	caatatacaa	180
tttctgttaa	atacaactgt	taagggattc	tgagaacaa	tataagatta	taataatata	240
tacaaactaa	cttctgaaat	gacatgggtt	gtttccttcc	cacctctcta	ccctctcaaa	300
gagtttttgc	atttgcgtgt	cctgggttgc	aaaggcaaaa	gaaaatctaa	aaatagttctg	360
tgtgtgtcca	cgacatgctc	gtccttttga	gaatctcaaa	c		401

<210> 116

<211> 301

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 116
 ngatttaatt gnnagcttct ttttaatgga atnnttggct aaaatgaatt gatgattatg 60
 aatatcccta ggaggagtta gcatggannn tgatcatttt cttngnactc ctttangaca 120
 nggaaacagg natcagcatg anggtanacan aaaccttatn accnangcgc acganctgac 180
 ttcttccaaa gagttgnggt tccgggcagc ggtcattgcc gtgcccattg ctggagggt 240
 gattctagt ntgcttatta tgctggccct gaggatgctt ccaanatgaa aataagangc 300
 t 301

<210> 117
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(383)
 <223> n = A,T,C or G

<400> 117
 aattgcaact ggacttttat tgggcagtta cnacaacnaa tgttttcana aaaatatttg 60
 gaaaaaatat accacttcat agctaagtct tacagagaan aggatttgct aataaaactt 120
 aagtttgaa aattaagatg cnggtanagc ttctgaacta atgccacag ctccaaggaa 180
 nacatgtcct atttagttat tcaaatacca gttgagggca ttgtgattaa gcaaacaata 240
 tatttggtan aactttgntt ttaaattact gntncttgac attacttata aaggagnctc 300
 taactttoga ttctaaaac tatgtaatac aaaagtatan ntttcccat tttgataaaa 360
 gggccnanga tactgantag gaa 383

<210> 118
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 118
 ctgctagaat cactgccgct gtgctttcgt ggaaatgaca gttccttggt ttttttggtt 60
 ctgtttttgt tttacattag tcattggacc acagccattc aggaactacc ccctgccccca 120
 caaagaaatg aacagttgta gggagaccca gcagcacctt tcctccacac accttcattt 180
 tgaagtctgg gtttttggtg taagttaatc tgtacattct gtttgccatt gttacttgta 240
 ctatacatct gtatatagtg tacggcaaaa gagtattaat ccactatctc tagtgcttga 300
 c 301

<210> 119
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 119
 taaggacatg gacccccggc tgattgcatg gaaaggagg gcaagtgttg cttgtttgga 60
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 aacaagcttc ttggtataaa agactcttac agaatatgtg tattgtaatt tattgatctg 240
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 ggaactttct cttcagtttg taaaactctc ttgcctctc t 401

<210> 120
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 120
 tccagagata ccacagtcaa acctggagcc aaaaaggaca caaaggactc tcgacccaaa 60
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 gaagctctat ataaatccaa gacaagcaac aaacccttga tgattattca tcaacttgggt 180
 gagtgtccac acagtcaagc tttaaagaaa gtgtttgctg aaaataaaga aatccagaaa 240
 ttggcagagc agtttgtcct cctcaatctg gtttatgaaa caactgacaa acacctttct 300
 c 301

<210> 121
 <211> 2691
 <212> DNA
 <213> Homo sapien

<400> 121
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 tgcggtctgt ggctctcgcc ctggctctgg ccctgggccc cgccgagacc ctggcggttc 120
 ccgccaagtc gccctaccag ctggtgctgc agcacagcag gctccggggc cgccagcacg 180
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 acagagactg tttgaatgtt tcaaaaacca agtatcacac tttaatgtac atgggcccga 2220
 ccataatgag atgtgagcct tgtgcatgtg ggggaggagg gagagagatg tactttttaa 2280

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atcatgttcc ccctaaacat ggctgttaac ccactgcatg cagaaacttg gatgtcactg 2340
cctgacattc acttccagag aggacctatc ccaaattgtg aattgactgc ctatgccaaag 2400
tccctggaaa aggagcttca gtattgtggg gctcataaaa catgaatcaa gcaatccagc 2460
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<210> 122
 <211> 683
 <212> PRT
 <213> Homo sapien

<400> 122

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          20          25          30
Val Leu Gln His Ser Arg Leu Arg Gly Arg Gln His Gly Pro Asn Val
          35          40          45
Cys Ala Val Gln Lys Val Ile Gly Thr Asn Arg Lys Tyr Phe Thr Asn
          50          55          60
Cys Lys Gln Trp Tyr Gln Arg Lys Ile Cys Gly Lys Ser Thr Val Ile
          65          70          75          80
Ser Tyr Glu Cys Cys Pro Gly Tyr Glu Lys Val Pro Gly Glu Lys Gly
          85          90          95
Cys Pro Ala Ala Leu Pro Leu Ser Asn Leu Tyr Glu Thr Leu Gly Val
          100          105          110
Val Gly Ser Thr Thr Thr Gln Leu Tyr Thr Asp Arg Thr Glu Lys Leu
          115          120          125
Arg Pro Glu Met Glu Gly Pro Gly Ser Phe Thr Ile Phe Ala Pro Ser
          130          135          140
Asn Glu Ala Trp Ala Ser Leu Pro Ala Glu Val Leu Asp Ser Leu Val
          145          150          155          160
Ser Asn Val Asn Ile Glu Leu Leu Asn Ala Leu Arg Tyr His Met Val
          165          170          175
Gly Arg Arg Val Leu Thr Asp Glu Leu Lys His Gly Met Thr Leu Thr
          180          185          190
Ser Met Tyr Gln Asn Ser Asn Ile Gln Ile His His Tyr Pro Asn Gly
          195          200          205
Ile Val Thr Val Asn Cys Ala Arg Leu Leu Lys Ala Asp His His Ala
          210          215          220
Thr Asn Gly Val Val His Leu Ile Asp Lys Val Ile Ser Thr Ile Thr
          225          230          235          240
Asn Asn Ile Gln Gln Ile Ile Glu Ile Glu Asp Thr Phe Glu Thr Leu
          245          250          255
Arg Ala Ala Val Ala Ala Ser Gly Leu Asn Thr Met Leu Glu Gly Asn
          260          265          270
Gly Gln Tyr Thr Leu Leu Ala Pro Thr Asn Glu Ala Phe Glu Lys Ile
          275          280          285
Pro Ser Glu Thr Leu Asn Arg Ile Leu Gly Asp Pro Glu Ala Leu Arg
          290          295          300
Asp Leu Leu Asn Asn His Ile Leu Lys Ser Ala Met Cys Ala Glu Ala
          305          310          315          320
Ile Val Ala Gly Leu Ser Val Glu Thr Leu Glu Gly Thr Thr Leu Glu
          325          330          335
Val Gly Cys Ser Gly Asp Met Leu Thr Ile Asn Gly Lys Ala Ile Ile
          340          345          350

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Ser Asn Lys Asp Ile Leu Ala Thr Asn Gly Val Ile His Tyr Ile Asp
 355 360 365
 Glu Leu Leu Ile Pro Asp Ser Ala Lys Thr Leu Phe Glu Leu Ala Ala
 370 375 380
 Glu Ser Asp Val Ser Thr Ala Ile Asp Leu Phe Arg Gln Ala Gly Leu
 385 390 395 400
 Gly Asn His Leu Ser Gly Ser Glu Arg Leu Thr Leu Ala Pro Leu
 405 410 415
 Asn Ser Val Phe Lys Asp Gly Thr Pro Pro Ile Asp Ala His Thr Arg
 420 425 430
 Asn Leu Leu Arg Asn His Ile Ile Lys Asp Gln Leu Ala Ser Lys Tyr
 435 440 445
 Leu Tyr His Gly Gln Thr Leu Glu Thr Leu Gly Gly Lys Lys Leu Arg
 450 455 460
 Val Phe Val Tyr Arg Asn Ser Leu Cys Ile Glu Asn Ser Cys Ile Ala
 465 470 475 480
 Ala His Asp Lys Arg Gly Arg Tyr Gly Thr Leu Phe Thr Met Asp Arg
 485 490 495
 Val Leu Thr Pro Pro Met Gly Thr Val Met Asp Val Leu Lys Gly Asp
 500 505 510
 Asn Arg Phe Ser Met Leu Val Ala Ile Gln Ser Ala Gly Leu Thr
 515 520 525
 Glu Thr Leu Asn Arg Glu Gly Val Tyr Thr Val Phe Ala Pro Thr Asn
 530 535 540
 Glu Ala Phe Arg Ala Leu Pro Pro Arg Glu Arg Ser Arg Leu Leu Gly
 545 550 555 560
 Asp Ala Lys Glu Leu Ala Asn Ile Leu Lys Tyr His Ile Gly Asp Glu
 565 570 575
 Ile Leu Val Ser Gly Gly Ile Gly Ala Leu Val Arg Leu Lys Ser Leu
 580 585 590
 Gln Gly Asp Lys Leu Glu Val Ser Leu Lys Asn Asn Val Val Ser Val
 595 600 605
 Asn Lys Glu Pro Val Ala Glu Pro Asp Ile Met Ala Thr Asn Gly Val
 610 615 620
 Val His Val Ile Thr Asn Val Leu Gln Pro Pro Ala Asn Arg Pro Gln
 625 630 635 640
 Glu Arg Gly Asp Glu Leu Ala Asp Ser Ala Leu Glu Ile Phe Lys Gln
 645 650 655
 Ala Ser Ala Phe Ser Arg Ala Ser Gln Arg Ser Val Arg Leu Ala Pro
 660 665 670
 Val Tyr Gln Lys Leu Leu Glu Arg Met Lys His
 675 680

<210> 123

<211> 1205

<212> DNA

<213> Homo sapien

<400> 123

ccagtcagca	gagggacagg	aatcattcgg	ccactgttca	gacgggagcc	acacccttct	60
ccaatccaag	cctggcccca	gaagatcaca	aagagccaaa	gaaactggca	ggtgtccacg	120
cgctccaggc	cagtgaagttg	gttgtcactt	actttttctg	tggggaagaa	attccatacc	180
ggaggatgct	gaaggctcag	agcttgaccc	tgggccactt	taaagagcag	ctcagcaaaa	240
agggaaatta	taggtattac	ttcaaaaaag	caagcgatga	gtttgcctgt	ggagcgggtg	300
ttgaggagat	ctgggaggat	gagacggtgc	tcccgatgta	tgaaggccgg	attctgggca	360
aagtggagcg	gatacgattga	gccctgcggt	ctggctttgg	tgaactgttg	gagcccgaag	420
ctcttgtgaa	ctgtcttggc	tgtgagcaac	tgcgacaaaa	cattttgaag	gaaaattaaa	480
ccaatgaaga	agacaaagtc	taaggaagaa	tcggccagtg	ggccttcggg	agggcggggg	540

gaggttgatt	ttcatgattc	atgagctggg	tactgactga	gataagaaaa	gcctgaacta	600
ttttattaaa	acatgaccac	totttgctat	tgaagatgct	gcctgtat	gagagactgc	660
catacataat	atatgacttc	ctagggatct	gaaatccata	aactaagaga	aactgtgtat	720
agcttacctg	aacaggaatc	cttactgata	tttatagaac	agttgatttc	ccccatcccc	780
agtttatgga	tatgctgctt	taaacttgga	agggggagac	aggaagtttt	aattgttctg	840
actaaactta	ggagttgagc	taggagtgcg	ttcatgggtt	cttcactaac	agaggaatta	900
tgctttgcac	tacgtccctc	caagtgaaga	cagactgttt	tagacagact	ttttaaaatg	960
gtgccctacc	attgacacat	gcagaaattg	gtgcgttttg	tttttttttc	ctatgctgct	1020
ctgtttttgtc	ttaaaggtct	tgaggattga	ccatgttgcg	tcatcatcaa	cattttgggg	1080
gttgtgttg	atgggatgat	ctgttgcaga	gggagaggca	gggaaccctg	ctccttcggg	1140
ccccaggttg	atcctgtgac	tgaggctccc	cctcatgtag	cctccccagg	cccagggccc	1200
tgagg						1205

<210> 124
 <211> 583
 <212> DNA
 <213> Homo sapien

ccaagaagca	gtggccttat	tgcattccaa	accacgcctc	ttgaccaggc	tgctccctt	60
gtggcagcaa	cggcacagct	aattctactc	acagtgtctt	taagtgaaaa	tggtcgagaa	120
agaggacca	ggaagccgtc	ctggcgctg	gcagtcctg	ggacgggatg	gttctggctg	180
tttgagattc	tcaaaggagc	gagcatgtcg	tggacacaca	cagactat	ttagattttc	240
ttttgccttt	tgaaccagg	aacagcaa	gcaaaaactc	tttgagagg	taggagggtg	300
ggaaggaaac	aaccatgtca	tttcagaagt	tagtttgtat	atattattat	aatcttataa	360
ttgttctcag	aatcccttaa	cagttgtatt	taacagaaat	tgtatattgt	aatttaaaat	420
aattatataa	ctgtatttga	aataagaatt	cagacatctg	aggttttatt	tcatttttca	480
atagcacata	tggaaatttg	caaagattta	atctgccaa	ggccgactaa	gagaagttgt	540
aaagtatgta	ttattttacat	ttaatagact	tacagggata	agg		583

<210> 125
 <211> 783
 <212> DNA
 <213> Homo sapien

tcaaccatac	atactgcttc	cactagctaa	taccaaagtgc	aggttctcag	atccagacaa	60
atggaggaaa	agaacattta	tgcttccgtt	tcagaaagcc	aagtcgtagt	tttggccctt	120
cctttctcta	aagtttattc	ccaaaaacag	gtagcattcc	tgattgggca	gagaagagga	180
tattttcagc	ccacatctgc	tgcaggatg	tcattttctc	ccatcttcac	tgtgactagt	240
aaagatctca	ccacttctct	ttggaatttc	caactttgct	tgtgattgaa	tgtcacttcg	300
tgaatttgta	ttatgtcaga	tcacttgcca	ttgctcttcc	atatgcatca	agttgccagg	360
cactgttgcg	ctgtcgggcc	cactggaatc	cacgggggtg	aaacaaatc	aattatgctt	420
ttacagatcc	tgctcaaaaa	aggtttcaac	tgcttaacca	agtacagctc	attcttccac	480
cttcttactc	tgcaacaaaa	ccaagtgcc	catactacag	gtaggtgccg	agaaattccg	540
cagcagaaaa	tccaaaatca	tttctgaaac	ctccttgcta	acaaaagttc	tttttttctc	600
caaacagcat	ataaaatgat	caagtcttga	aagagaaaag	aagcaaagta	gcaaatacat	660
caacaattca	ctatcagaaa	cacataaaat	cccagagaga	gagaaggcag	tatctctgaa	720
tcattggatg	acttggaag	ttcggaagga	ttccgagtgc	ttcctttcag	aaagacaatt	780
ctg						783

<210> 126
 <211> 604
 <212> DNA
 <213> Homo sapien

<400> 126	cctgctagaa	tcactgccgc	tgtgctttcg	tggaaatgac	agttccttgt	tttttttgg	60
-----------	------------	------------	------------	------------	------------	-----------	----

tctgtttttg	ttttacatta	gtcattggac	cacagccatt	caggaactac	cccctgcccc	120
acaaagaaat	gaacagttgt	agggagaccc	agcagcacct	ttcctccaca	caccttcatt	180
ttgaagtctg	ggtttttgtg	ttaaagttaa	tctgtacatt	ctgtttgcc	ttgttacttg	240
tactatacat	ctgtatatag	tgtacggcaa	aagagtatta	atccactatc	tctagtgtt	300
gactttaaat	cagtacagta	cctgtacctg	cacggtcacc	cgctccgtgt	gtcgccctat	360
attgagggct	caagctttcc	cttgtttttt	gaaaggggtt	tatgtataaa	tatattttat	420
gcctttttat	tacaagtctt	gtactcaatg	acttttgtca	tgacattttg	ttctacttat	480
actgtaaaat	atgcattata	aagagttcat	ttaaggaaaa	ttacttggt	caataattat	540
tgtaattaav	agatgtagcc	tttattaaaa	ttttatattt	ttcaaaaaaa	aaaaaaaaaa	600
aaaa						604

<210> 127

<211> 417

<212> DNA

<213> Homo sapien

<400> 127

ctgagcctct	gtcaccagag	aaggctgagg	ccccaatggc	acacctcaga	aacctacacc	60
ccgaggtctg	acggctggac	tcctgagcac	aagctccctc	tcgcaccctt	tgccagacag	120
tttgtctcca	atttcaaact	gacctaaggc	tcttactcct	ggattttttg	tttttaaac	180
ttctcccagc	cagtcttcgg	gagggcatga	ttagagaagt	gctcctttgc	tgatggagga	240
ggggacctaa	ggaagaaggt	ggatcccagg	tgctcctctc	ctaattgatc	ctccccacct	300
agtttctctt	gcctctcttc	cttctaccag	gtcatgtttt	ttactctctg	ccccttctgc	360
ctcctagcat	ttcaaaaact	gtagagtgc	ccccatagtg	gacattttta	gtccagg	417

<210> 128

<211> 657

<212> DNA

<213> Homo sapien

<400> 128

ccacactgaa	atgcagttta	atgtggaac	ttttctaaat	acatattgta	gcattctttg	60
acatcaacgt	gtggcctgaa	atttttatta	ttgttcctc	ttctcctcca	ttaaaaaaa	120
aatctccttg	tggtatttag	tcattttacca	ttaacacata	ttatggctta	aaaagggcc	180
tccttctctt	ttctgagctg	gagttcttca	cgctcacctt	tgatgcatgg	ccttagctgg	240
ttactttgcc	ttggtttgg	catgaacatt	gggttagtg	gcctggcaac	ttgaatgcat	300
atggaagaa	caatgccaa	tgatctgaca	taatacaaat	tcggaagtga	cattcaatca	360
caagcaaaat	tggaatttc	aaagagaagt	ggtgagatct	ttactagtca	cagtgaagat	420
gggagaaaa	gacatacctg	cagcagatgt	gggtgaaaa	tatcctcttc	tctgccaat	480
caggaatgct	acctgtttt	gggaataaac	tttagagaaa	ggaagggcc	aaactacgac	540
ttggctttct	gaaacggaag	cataaatgtt	cttttctctc	atttgtctgg	atctgagaac	600
ctgcatttgg	tattagctag	tggaagcagt	atgtatggtt	gaagtgcatt	gctgcag	657

<210> 129

<211> 1220

<212> DNA

<213> Homo sapien

<400> 129

cgctgtctcg	gctcacacca	acaaggcaag	ccaaaggcgc	ccctccccag	agggatccct	60
aacgtgcccc	gcatgtagat	tctggactaa	cagacaacat	acattcacgc	ctggtcaccc	120
agatcctcat	tcaaaccac	tgctggcaca	tccttttct	tactttgccc	tgtgtacca	180
gccacggaag	gagcctctct	tgttttttct	ataaaatggg	taggcaggag	aaaagcaggt	240
gccctaagat	tgctctaagg	cccagcatgt	ggttacagtt	ctctgacttg	cagaacctgc	300
caggtgtatg	gctacaagtt	atcctcgtgc	tgatctgtct	cattactaag	ttaattggaga	360
agacagaaa	gtaaaaatca	cgtgtagcaa	gaacaactct	tatttcacaa	actcaggtat	420
gaaacgaaac	gcctgtcctt	catggaactg	cttttagctc	ctgtcttttc	aaaatggcag	480
agggagtctc	tacacacact	ttttccctgg	aggccaaggt	ctaggggtag	aaaggggagg	540

ggtggggcta	ccaggtagca	gttgacaacc	caaggtcaga	ggagtggccc	tcagtgtcat	600
ctgtccacag	tgatacctgc	caagatgacc	actgaccac	atctgggtctt	agtcatttgt	660
ctcctcagat	ttctggggcc	acctgcaagc	ccattccat	tcctacagat	ctctcagcca	720
cctgtaagtc	ctttgtgaag	atgtgggtga	cacaggggga	caggaaaacc	catttctcaa	780
cccagatcca	tgctccact	gcttctactc	tgggttggga	ttcaggaaga	caggcacagt	840
cctctctgtt	catagaaaca	cctgccagtg	tcaaggatto	cagtcagggtg	tctatcccaa	900
ctggtcaggg	agagaagggc	agacccattc	tcaaagacca	ccatgtccaa	ggtctgacag	960
ctccccactg	gctgccccca	caggggcttt	aggctggtct	gggtcatggg	gaagcgtccc	1020
tcttatcgct	ggtctgtggt	ctcctggatt	tggatatctat	gttggtacga	ctcctggcct	1080
tttatctaaa	ggactttggc	ttttgtaaat	cacaagccaa	taatagactt	ttttctcccc	1140
ctctgttttt	tgctgtgtca	tctctgcctt	gagactgcct	tgagacagtg	cttgccttga	1200
gagagtgagc	caattaacag					1220

<210> 130

<211> 1274

<212> DNA

<213> Homo sapien

<400> 130

ccatatgagt	ttgccatctc	catggatgcc	atttcaatgc	cttcagggta	atcattctct	60
cccctaaagac	tgcccacggg	gtcatcactc	ctgtgacgaa	atgagggctg	gattgaagat	120
gttctgtctga	gcacccccct	ggtcatcttt	gggtctcag	aagagccata	atcatgacca	180
ttctcagcat	ctgaataatc	aggttctctc	caagtgtctg	gcaagttctg	attgtcctca	240
gcactgggat	agctcggctc	cccaaaaaag	ggtggagagt	taggttgaat	gtcagcgcct	300
ggataatcag	gctttcccag	agagtctgcy	tatggattga	ttctaaaact	tgtatgttcc	360
agattctttc	tggaacctgg	atggttcaaa	ttggctctgg	gtccaggatg	atcagagttg	420
ctctgagctc	cagggtagtc	cggttctaag	gagccaaaat	gatctggatg	tggtctggag	480
cctgcatagt	ttccactgct	gctggagcct	gcaaaatcag	gatttcggtg	agatccaggg	540
tagtctgggt	gtctggatga	tgctcgggtg	tagggatgac	tctgaaattc	actataatct	600
ggctctggta	gagaggtagg	atggctctgg	cttgttctag	aggctgcaga	gtatgcattg	660
cttctgggtc	cagaatagtc	tggattactc	agagatctag	gataatttgg	ttctgccaga	720
gaccaggat	agctcggacg	tggtctggag	gctacagagt	atggattgct	cctgggtgccg	780
gggtaatctg	gattgttcag	aggacctgga	acatctggat	aaccttgagt	tttcaaatac	840
ccctgcgtac	ggttctgaga	ccctgaatag	tcagggtaat	ctgggtcttc	ctcagaccag	900
ttattcctgt	agtaggcaga	catgttggtg	tggactcttc	accctggagt	ggtaaactgt	960
cccagcattt	gcaattactc	agggatcttt	tttttttcac	ttttttgccc	ttattgttct	1020
tgctttgtcc	caagtagatg	caaagtgtgt	gcaaaccaac	ttgatcttaa	gatgttggtg	1080
agaacactgg	agtcacgtgt	ccatgggtcc	ttcaggctgg	cttttgatgg	gagctgggat	1140
gcagatgatt	tacggagggt	tataatctgt	gatgctggtc	tgaagtctga	atattccaag	1200
ttgctgactg	caggcagagc	ctcatgtcct	cctggcgctc	ctggtgcccgc	tgcttgcgct	1260
ggccctcggg	tcga					1274

<210> 131

<211> 554

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(554)

<223> n = A,T,C or G

<400> 131

ctgtaattct	gccttttcta	cottcattcc	atccttcctc	tgcccagata	aagkccagca	60
gaaattcctc	ctttctacct	ctctgggact	ctgagacagg	aaatcttcaa	ggaggagtgt	120
ttccctcccc	actatttcta	ttctcaaccc	ccagaggaaac	caaggctgct	gtacccacct	180
cagggcagag	actccacact	atagtgggaa	agcttcaggg	accctcctt	ttagtgtctc	240
gggctcacct	atgctactgg	tccttttggc	aaaaaaggaa	aatgatagag	ccaggggtgc	300

<400> 135

ctccagcctg	gctatatccg	gtcccgtat	aacctgggca	tcagctgcat	caacctcggg	60
gctcaccggg	aggctgtgga	gcactttctg	gaggccctga	acatgcagag	gaaaagccgg	120
ggccccggg	gtgaaggagg	tgccatgtcg	gagaacatct	ggagcacct	gcgtttggca	180
ttgtctatgt	taggccagag	cgatgcctat	ggggcagccg	acgcgcggga	tctgtccacc	240
ctcctaacta	tgtttggcct	gccccagtga	cagtgggacg	ggctgccctg	tgagtgtcca	300
cctggggatt	aaatatgtct	tcaacaagg	aggcctggct	tctacaatgg	tttaggtaaa	360
ggggcctttg	aagtagttct	ggccaggctt	gcaatacaca	caacacaaga	gcca	414

<210> 136

<211> 461

<212> DNA

<213> Homo sapien

<400> 136

gaagtgatta	ataggtttat	ttgcatatac	acagagaaga	gtcagcattg	ttgggtgaga	60
agaggcaggc	tgtgaggagg	taaggcttca	gcagaggag	gcaccttgac	agacaacacg	120
agactcctat	ttaatcagca	cagttgcaaa	cttcacctgc	ctcaagccaa	cagctcattg	180
aactcatatg	tcgattgaga	atcatttaca	aaaccaggag	agaaacaatg	ggaagagcaa	240
cggctctctca	tccctggacc	tgacactcaa	aacattatgt	acaggatgca	ggaacaaaat	300
ctgtctgata	agtgcctct	ccgtgctgga	aaaacaccca	tcacggaaga	atttggggat	360
taaatatgtc	ttcaacaagg	gaggcctggc	ttctacaatg	gtttaggtaa	aggggccttt	420
gaagtagttc	tggccaggct	tgcaatacac	acaacacaag	a		461

<210> 137

<211> 269

<212> DNA

<213> Homo sapien

<400> 137

atagcaaatg	gacacaaatt	acaaatgtgt	gtgcgtggga	cgaagacatc	tttgaaggtc	60
atgagtttgt	tagtttaaca	tcatatat	gtaatatgta	aacctgtact	caaaatataa	120
gcagcttgaa	actggcttta	ccaatcttga	aatttgacca	caagtgtctt	atatatgcag	180
atctaagtga	aaatccagaa	cttggaactcc	atcggttaaaa	ttatttatgt	gtaacattca	240
aatgtgtgca	ttaaataatgc	ttccacagt				269

<210> 138

<211> 452

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(452)

<223> n = A,T,C or G

<400> 138

ctccatggga	ggcaaaatat	agagaatttta	tggtgcccaa	ctcttatgta	atcactggac	60
taatcttccc	tggttaactat	gcaacatttg	gacagaaagg	cacacaaaaa	agtttaaata	120
tttcatgtgc	caatctggaa	aaaaataatt	taaatcaaca	gaacagacag	tacatctaca	180
caaagtggga	aagcagaaaa	gatacctcac	attcatttat	ctcaggtttc	aaagtggctt	240
caatgctaaa	gtaaagtgtat	taacatttgg	aaaatacaag	acaatttttt	tgtttgtttt	300
caattttttt	agctctatac	aattgattaca	acataagaca	aaaaaaaaaa	aaaaacacaa	360
aaaacaaaac	aaaaaaggag	ttcaggactt	gttatcagtg	tccaagtggc	taanaactgg	420
ttcccataac	aagcattgaa	agttaaggcc	cc			452

<210> 139

<211> 474
 <212> DNA
 <213> Homo sapien

<400> 139
 tgtgcctcat tgaggttaca attgaaacag atgtgagcac ctgagagact ttccctgatt 60
 atattcctcc acaaaccact gtaccatatt accttatttt atcttcttga aattcttatt 120
 cattggcttg tttgttgtct ctttgcatta gatatatgta agctccttgg cataaatttg 180
 acattggtag gggactgaca ttctaacctg gcccaggccc taggagagag ataactccac 240
 aaagcagcac atactatctt aggttagcag ggagctaact caccatgtag cagatgaaaa 300
 aaaccaaacc cagcactgtg cataaatacc acttgccaag aagtcaggtc ctcggaacc 360
 gagaatcaac ctacgcacaa acgcagggtg ctgggctctg ttccccctta gccaccacct 420
 cagcctctcc cctcccctgc cccaagtgcc caagagcttg gctctctgtg cttt 474

<210> 140
 <211> 487
 <212> DNA
 <213> Homo sapien

<400> 140
 cttccctgcc tcgtgttccct gagaaacgga ttaatagccc tttatcccc tgcaccctcc 60
 tgcaggggat ggcactttga gccctctgga gccctccctt tgcagagcct tactctcttc 120
 agactttctg aatgtacagt gccgttggtt gggatttggg gactggaagg gaccaaggac 180
 actgaccca agctgtcctg cctagcgtcc agcgtcttct aggaggggtg ggtctgcctg 240
 tcttggtgtg gttggttttg ccctggttgc tgtgactacc cccccccctc ccggaaccga 300
 gggacggctg cctttgtctc tgcctcagat gccacctgcc ccgcccagtc tccccatcag 360
 cagcatccag actttcagga agggcagggc cagccagtcc agaaccgcat cctcagcag 420
 ggactgataa gccatctctc ggagggccccc ctaataccca agtggagtct gggtcacacc 480
 ctggggg 487

<210> 141
 <211> 248
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(248)
 <223> n = A,T,C or G

<400> 141
 ttaaagatgg ggaaatgagg cctgnaaata gaaaagattt gcctagagtc acacacactg 60
 tcaggtcagg tagagtcaaa atcaggcacc ccgactcaca gactgcttca cattgccatc 120
 agagattgtc ctgcaacaat attatgttta gttctactgc agaataataa ctggatctta 180
 ccccttttgc ctgatctggc cacaacttg tttttcaggc ctttccatta ggctctcttc 240
 agctaatt 248

<210> 142
 <211> 173
 <212> DNA
 <213> Homo sapien

<400> 142
 tactaagatt gtccaagcct ccctcttaaa actttctttc ccttttagagg aatcattact 60
 tcgtattaaa agtttctact tccttgtaga atatctacat ccaatgggcc atggcacaaa 120
 atttaagtct agaagaatc ttaaaggctc atcttatagt aaccagaggc agg 173

<210> 143

<211> 511
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(511)
 <223> n = A,T,C or G

<400> 143
 cctcgtcaga ggggtggttc ctggtnacct gtactccacg gacctcggtg aagcaaaagc 60
 ttcagggcag agggaaatgag gcaaccacgt ggcagccccg ctgggccccg tggctcctgc 120
 tctcctattg gacgtagagg caggggagag acttctctat acaaatattc tcatcacaga 180
 agggatgacg cttgctgctc tgccgtaggg tttttgatgc tgagctatgc tgcacatgac 240
 gttaacctaa agaacttgga ctgagctttt aaaaaaggac agcaaacaat ttataaatcc 300
 ttaaagtgtg atagacgggt acactagtgc aggggtattg ggaggctctt tgggtgtgga 360
 ggctgtcact tgtatttatt gtgactctaa atctttgata gtaaaacaaa tgtaaaaaga 420
 aatgtttgcc accagatggg aatagaagtt ccaataagca ggctggaatg ggtggctata 480
 cgttgtatca cgaggaagtt ttagactctg a 511

<210> 144
 <211> 190
 <212> DNA
 <213> Homo sapien

<400> 144
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 agacttcgcg tacacttttc acaaaattat ctccaggtat ctctctgccc aagcagatgt 120
 caagagtggg aatggtcagg ctgggtgaca gcctgctctc ggtgtgggcc tatgatctag 180
 gctctcgctt 190

<210> 145
 <211> 169
 <212> DNA
 <213> Homo sapien

<400> 145
 gatgtggtta tctcctcaga tggccagttt gccctctcag gctcctggga tggaaccctg 60
 cgcctctggg atctcacaaac gggcaccacc acgaggcgat ttgtgggcca taccaaggat 120
 gtgctgagtg tggccttctc ctctgacaac cggcagattg tctctggat 169

<210> 146
 <211> 511
 <212> DNA
 <213> Homo sapien

<400> 146
 atctagagaa gatttgggaa acacatgata gctatgggta aataacttaac agggcaatca 60
 cagggaagat gactagattt cctaacatcc atgagtgaag ttatagaag tatactctct 120
 gacttgatat aaaggaagat tttaaaaaac atgactgttc aggagtgttc aagtagggtc 180
 agatgaccag tgattgggaa tacttcgtaa gcaggagcaa gtaagatctg agccactgtt 240
 ctatcggtag ggtgtctgtg gtattccttg gtcaaaagag tactctaagc aacttcagtc 300
 tcacgaatta ctatcaccct cgtgggcata catgatgggt accctaaaga ggaagtttca 360
 gaaggcagta atattggatc ctggaatagt cagacaggag ccttcatgca gatacccttt 420
 tcagttctcc atacacccat tcacaagtgg tcacaaaaac acccagtagc tttacttggc 480
 tttaccact taacaatatg ctcaatatga g 511

<210> 147

<211> 421
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(421)
 <223> n = A,T,C or G

<400> 147
 gaccagttga gttcttcctg gctattgtat aatccacagc cacactgtga aagcaaactct 60
 ggccagttag caacacaggg agaatctgcc tgaactgacc aaaggtgtcc atacttcatg 120
 tcagtgaagaa ttccacctcc atcatgttct aaagagccaa caacagattc tagggcactg 180
 caaaatgctt cagcaattaa ttgaagttct gtttgagtac attcatcatc ttgagaatg 240
 ctttctgggt cggtgtgagt cttgtgtctg atatatgcag ccaaagagt ttcagtacag 300
 ccacctccca acaaagccca tggttccttg agtgtaact gcaggacatg cagtgcgctc 360
 tgacacgtga gtttcagctc atcccangca gtgtcatttc tgttcagag aagccaagct 420
 g 421

<210> 148
 <211> 237
 <212> DNA
 <213> Homo sapien

<400> 148
 acacaccact gttggccttc catctgggtt aagtcaactg tgagtagaaa ccgaagataa 60
 cagttttgta ttcataaatgg ctttttcata ctccaagtac ttttgagcac agagcctctt 120
 gcttctgacc tggcacttgg aacacagata tatatatctt ttgttctgtc cctgggaaac 180
 tgatatttgt gtaagacaac caccagatat tttctctaata aaaatcttct aaaatta 237

<210> 149
 <211> 168
 <212> DNA
 <213> Homo sapien

<400> 149
 agagaaagtt aaagtgcatt aatgtttgaa gacaataagt ggtggtgtat cttgtttcta 60
 ataagataaa cttttttgtc tttgttttat cttattaggg agttgtatgt cagtgtataa 120
 aacatactgt gtggtataac aggcttaata aattctttaa aaggagag 168

<210> 150
 <211> 68
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(68)
 <223> n = A,T,C or G

<400> 150
 ggtgggggtt ggcagagatg antttaagt ctgtggccag aagcgggggg ggggttttgt 60
 ggaaattt 68

<210> 151
 <211> 421
 <212> DNA
 <213> Homo sapien

<400> 151
 aggtgacacg tattcgggat gaaagtataa tagtcattcc ttcaaccctt gcatttatgg 60
 actctggaaa tcgaagatcc acagttagta aagatgttcg tccaaagaca aaaaatagaa 120
 acagctcaac aaagcgagag acaaaaaaac aaaatggcac tgtggctctg cctttgaagt 180
 ctgggtctcca gcagagggct gatcttccca caggagacga gacggcctat gacactctcc 240
 agaactgttg tcagtgccga attttacttc ccttgcccat tctaaatgag caccaggaga 300
 agtgccagag gttagctcac caaaagaaac tccagtgggg ctggtgagat ggctcagcgg 360
 gtaagagcac ccgactgctc ttccgaaggt ccggagtcca aatcccagca accacatggt 420
 g 421

<210> 152
 <211> 507
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(507)
 <223> n = A,T,C or G

<400> 152
 gaattcggca cnagctcgtg ccgccagggt nggtccnttt ttgtctccgc ctccgccanga 60
 cttcctacag ctatcgccag tcgtcggcca cgtcttcctt cngaggcctg ggccggcgct 120
 ccgtgcgttn tgggcggggg gtcgcctttc nctcnccag cattcacggg ggctccggcg 180
 gccgcggcgt atccgtgtcc tcgcgccgct ntgtgtcctc gtccctcctn ggggcctacg 240
 gctngctgct acngcggctt cctgaccgct tccnaccggc tgctggcngg caacgagaag 300
 ctaaccatgc agaacctnaa cnaccgcctg gcctcctacc tgnacaaggt gcgcncctg 360
 taggcggcca acggcnagct agaggtgaag atccnctact gggtaccaga agcaggggcc 420
 tgggccctgc ccgactacag ccactnctnc acnaccatgc agtacctgcn ggganaagat 480
 tntngggngc caccatngag aactgca 507

<210> 153
 <211> 513
 <212> DNA
 <213> Homo sapien

<400> 153
 gaattcggca cgagggtggct cagatgtcca ctactgggag tatggtcgaa ttgggaatth 60
 tattgtgaaa aagcccatgg tgctgggaca tgaagcttcg ggaacagtcg aaaaagtggg 120
 atcatcggta aagcacctaa aaccagggtg tcgtgttgcc atcgagcctg gtgctccccg 180
 agaaaatgat gaattctgca agatgggccg atacaatctg tcaccttcca tcttcttctg 240
 tgccgcgccc cccgatgacg ggaacctctg ccggttctat aagcacaatg cagccttttg 300
 ttacaagctt cctgacaatg tcacctttga ggaaggcgcc ctgatacgag cactttctgt 360
 ggggatccat gcctgcagga gaggcggagt taccctggga cacaaggctc ttgtgtgtgg 420
 agctgggcca atcgggatgg tcactttgct cgtggccaaa gcaatgggag cagctcaagt 480
 agtgggtgact gatctgtctg ctaccgatt gtc 513

<210> 154
 <211> 507
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(507)
 <223> n = A,T,C or G

```

<400> 154
ggcacgagct cgtgccgaat tcggcncgag cagacacaaat ggtaagaatg gtgcctgtcc      60
tgctgtctct gctgctgctt ctgggtcctg ctgtccccc ggagaaccaa gatggtcgtt      120
actctctgac ctatatctac actgggctgt ccaagcatgt tgaagacgtc cccgcgtttc      180
aggcccttgg ctactcaat gacctccagt tctttagata caacagtaaa gacaggaagt      240
ctcagcccat ggactctgag agacagggtg aaggaatgga ggattggaag caggacagcc      300
aacttcagaa ggccagggag gacatcttta tggagaccct gaaagacatc gtggagtatt      360
acaacgacag taacgggtct cactgtattgc agggaagggt tggttgtgag atcgagaata      420
acagaagcag cggagcattc tggaaatatt actatgatgg aaaggactac attgaattca      480
acaaagaaat cccagcctgg gtccctt                                     507

```

```

<210> 155
<211> 507
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(507)
<223> n = A,T,C or G

```

```

<400> 155
ggcacgagga gacctaaggg ctgagtntcg ggaacaggag aaagctctgt tggccctcca      60
gcagcagtgt gctgagcagg cacaggagca tgaggtggag accagggccc tgcaggacag      120
ctggctgcag gcccaggcag tgctcaagga acgggaccag gagctggaag ctctgcgggc      180
agaaagtcag tcctcccggc atcaggagga ggctgcccgg gcccgggctg aggctctgca      240
ggaggccctt ggcaaggctc atgctgccct gcaggggaaa gagcagcatc tcctcgagca      300
ggcagaattg agccgcagtc tggaggccag cactgcaacc ctgcaagcct ccctggatgc      360
ctgccaggca cacagtcggc agctggagga ggctctgagg atacaagaag gtgagatcca      420
ggaccaggat ctccgatacc aggaggatgt gcagcagctg cagcaggcac ttgccagag      480
ggatgaagag ctgagacatc agcagga                                     507

```

```

<210> 156
<211> 509
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(509)
<223> n = A,T,C or G

```

```

<400> 156
ggcacgagga cagagagaac cctgtngaaa gagcgttacc aggaggtcct ggacaaacag      60
aggcaagtgg agaatacagct ccaagtgcaa ttaaagcagc ttcagcaaag gagagaagag      120
gaaatgaaga atcaccagga gatattaaag gctattcagg atgtgacaat aaagcgggaa      180
gaaacaaaga agaagataga gaaagagaag aaggagtttt tgcagaagga gcaggatctg      240
aaagctgaaa ttgagaagct ttgtgagaag ggcagaagag aggtgtggga aatggaactg      300
gatagactca agaatacagga tggcgaaata aataggaaca ttatggaaga gactgaacgg      360
gcctggaagg cagagatctt atcactagag agccggaaag agttactggt actgaaacta      420
gaagaagcag aaaaagaggc agaattgcac cttacttacc tcaagtcaac tcccccaaca      480
ctggagacag ttcgttccaa acaggagtgt                                     509

```

```

<210> 157
<211> 507
<212> DNA
<213> Homo sapien

```

<400> 157
ggcacgaggg cagccctcct accggcgcac gtggtgccgc cgctgctgcc tcccgcctgc 60
cctgaaccca gtgacctgag ccatggctcc cggccagctc gccttattta gtgtctctga 120
caaaaccggc cttgtggaat ttgcaagaaa cctgaccgct cttggtttga atctggctgc 180
ttccggaggg actgcaaaag ctctcaggga tgctggctcg gcagtcagag atgtctctga 240
gttgacggga tttcctgaaa tgttgggggg acgtgtgaaa actttgcac ctcagtcaca 300
tgctggaatc ctgctcgta atattccaga agataatgct gacatggcca gacttgattt 360
caatcttata agagttgttg cctgcaatct ctatcccttt gtaaagacag tggcttctcc 420
aggtgtaagt gttgaggagg ctgtggagca aattgacatt ggtggagtaa cttactgag 480
agctgcagcc aaaaaccacg ctcgagt 507

<210> 158
<211> 507
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(507)
<223> n = A,T,C or G

<400> 158
ggcacgagtc gagctgtgcc tattcgngtc aatccaagag tgagtaatgt gaagtctgtc 60
tacaaaaccc acattgatgt cattcattat cggaaaacgg atgcaaacg tctgcatggc 120
cttgatgaag aagcagaaca gaaacttttt tcagagaaac gtgtggaatt gcttaaggaa 180
ctttccagga aaccagacat ttatgagagg cttgcttcag ccttggtccc aagcatttat 240
gaacatgaag atataaagaa gggaattttg cttcagctct ttggcgggac aaggaaggat 300
tttagtcaca ctggaagggg caaatttcgg gctgagatca acatcttgct gtgtggcgac 360
cctggtacca gcaagtccca gctgctgcag tacgtgtaca acctcgtccc cagggggccag 420
tacacgtntg ggaagggctc cagtgcantt ggcctnactg cntacgtaat gaaagaccct 480
gagacaaggn anctggnnct gnnacag 507

<210> 159
<211> 508
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(508)
<223> n = A,T,C or G

<400> 159
ggcacnanaa accaggatta tggtnnngat ccaaagattg ctaatgcaat aatgaaggca 60
gcagatgagg tagctgaagg taaattaaat gatcattttc ctctcggtgt atggcagact 120
ggatcaggaa ctcagacaaa tatgaatgta aatgaagtca ttagcaatag agcaattgaa 180
atgttaggag gtgaacttgg cagcaagata cctgtgcac ccaacgatca tgtaataaaa 240
agccagagct caaatgatac ttttcccaca gcaatgcaca ttgctgctgc aatagaagtt 300
catgaagtac tgttaccagg actacagaag ttacatgatg ctcttgatgc aaaatccaaa 360
gagtttgac agatcatcaa gattggacgt actcatactc aggatgctgt tccacttact 420
cttgggcagg aatttagtgg ttatgttcaa caagtaaaat atgcaatgac aagaataaaa 480
gctgccatgc caagaatcta tgagctcg 508

<210> 160
<211> 508
<212> DNA
<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(508)
 <223> n = A,T,C or G

<400> 160

ggcacgagct	tggagcaaag	tcattctnaag	gaattagagg	acacacttca	ggttaggcac	60
atacaagagt	ttgagaaggt	tatgacagac	cacagagttt	ctttggagga	attaaaaaag	120
gaaaaccaac	aaataattaa	tcaaatacaa	gaatctcatg	ctgaaattat	ccaggaaaaa	180
gaaaaacagt	tacaggaatt	aaaactcaag	gtttctgatt	tgtcagacac	gagatgcaag	240
ttagagggtg	aacttgctgt	gaaggaagca	gaaactgatg	aaataaaaaa	tttgctggaa	300
gaaagcagag	cccagcagaa	ggagaccttg	aaatctcttc	ttgaacaaga	gacagaaaaa	360
ttgagaacag	aaattagtaa	actcaaccaa	aagattcagg	ataataatga	aaattatcag	420
gtgggcttag	cagagctaag	aactttaatg	acaattgaaa	aagatcagtg	tatttccgag	480
ttaattagta	gacatgaaga	agaatcta				508

<210> 161
 <211> 507
 <212> DNA
 <213> Homo sapien

<400> 161

ggcacgagcg	ctaccggcgc	ctcctctgcg	gccactgagc	cggagccggc	ctgagcagcg	60
ctctcggttg	cagtaccac	tggaaggact	taggcgctcg	cgtggacacc	gcaagcccct	120
cagtagcctc	ggcccaagag	gcctgctttc	cactcgctag	ccccgccggg	ggtccgtgtc	180
ctgtctcggt	ggccggaccc	gggcccagac	ccgagcagta	gccggcgcca	tgtcggtggt	240
gggcatagac	ctgggcttcc	agagctgcta	cgctcgctgtg	gcccgcgcgc	gcggcatcga	300
gactatcgct	aatgagtata	gcgaccgctg	cacgcgggct	tgcatttctt	ttggtcctaa	360
gaatcggtta	attggagcag	cagctaaaag	ccaggtaatt	tctaattgcaa	agaacacagt	420
ccaaggattt	aaaagattcc	atggccgagc	attctctgat	ccatttgttg	aggcagaaaa	480
atctaaccct	gcatatgata	ttgtgca				507

<210> 162
 <211> 507
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(507)
 <223> n = A,T,C or G

<400> 162

ggcacgagca	gctgtgcacc	gacatgntct	cagtgtcctg	agtaagacca	aagaagctgg	60
caagatcctc	tctaataatc	ccagcaaggg	actggccctg	ggaattgcca	aagcctggga	120
gctctacggc	tcaccaatg	ctctggtgct	actgattgct	caagagaagg	aaagaaacat	180
atttgaccag	cgtgccatag	agaatgagct	actggccagg	aacatccatg	tgatccgacg	240
aacatttgaa	gatattctctg	aaaaggggtc	tctggaccac	gaccgaaggc	tgtttggtga	300
tggccaggaa	attgctgtgg	tttacttccg	ggatggctac	atgcctcgtc	agtacagtct	360
acagaattgg	gaagcacgtc	tactgctgga	gaggtcacat	gctgccaaagt	gccagacat	420
tgccaccagc	ctggctggga	ctaagaaggt	gcagcaggag	ctaagcaggc	cgggcatgct	480
ggagatgttg	ctccctggcc	agcctga				507

<210> 163
 <211> 460
 <212> DNA
 <213> Homo sapien

<400> 163

```

ggcacgagaa ataatcttat ttcatgtgtg gtcgcggttc ttgtttgtgg atcgctgtga      60
tcgtcacttg acaatgcaga tcttcgtgaa gactctgact ggtaagacca tcaccctcga      120
ggttgagccc agtgacacca tcgagaatgt caaggcaaag atccaagata aggaaggcat      180
ccctcctgac cagcagaggg tgatctttgc tggaaaacag ctggaagatg ggcgaccct      240
gtctgactac aacatccaga aagagtccac cctgcacctg gtgctccgtc tcagagggtg      300
gatgcaaatc ttcgtgaaga cactcactgg caagaccatc acccttgagg tggagcccag      360
tgacaccatc gagaacgtca aagcaaagat ccaggacaag gaaggcattc ctcctgacca      420
gcagagggtg atctttgccg gaaagcagct ggaagatggg                               460

```

<210> 164

<211> 462

<212> DNA

<213> Homo sapien

<400> 164

```

ggcacgagcc ggatctcatt gccacgcgcc cccgacgacc gcccgacgtg cattcccgat      60
tccttttggg tccaagtcca atatggcaac tctaaaggat cagctgattt ataattcttct      120
aaaggaaagaa cagacccccc agaataagat tacagttgtt ggggttggtg ctggttgcat      180
ggcctgtgcc atcagtatct taatgaagga cttggcagat gaacttgctc ttgttgatgt      240
catcgaagac aaattgaagg gagagatgat ggatctccaa catggcagcc ttttccttag      300
aacaccaaaag attgtctctg gcaaagacta taatgttaact gcaaactcca agctgggtcat      360
tatcacggct ggggcacgtc agcaagaggg agaaagccgt cttaatttgg tccagcgtaa      420
cgtgaacatc tttaaattca tcattcctaa tgttgtaaaa ta                               462

```

<210> 165

<211> 462

<212> DNA

<213> Homo sapien

<400> 165

```

ggcacgagga agccatgagc agcaaagtct ctgcgcacac cctgtacgag gcggtgcggg      60
aagtcctgca cggaaccag cgcaagcgcc gcaagttcct ggagacggtg gagttgcaga      120
tcagcttgaa gaactatgat cccagaagg acaagcgctt ctcgggcacc gtcaggctta      180
agtcactacc ccgccctaag ttctctgtgt gtgtcctggg ggaccagcag cactgtgacg      240
aggctaaggc cgtggatatc cccacatgg acatcgaggc gctgaaaaaa ctcaacaaga      300
ataaaaaact ggtcaagaag ctggccaaga agtatgatgc gtttttggcc tcagagtctc      360
tgatcaagca gattccacga atcctcggcc cagggtttaa taaggcagga aagttccctt      420
ccctgctcac acacaacgaa aacatggtgg ccaaagtgga tg                               462

```

<210> 166

<211> 459

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(459)

<223> n = A,T,C or G

<400> 166

```

ggcacgagag ggactgtnt gaatggntcc actagggttn anntgnctct tacttttaac      60
cantnaaatin gacctgcccg tgaanangcg ggcntgacac annaanacga gaagacccta      120
tggagcttta atttattaat gcanacagna cctaacaac ccacangtcc taaactacca      180
agcctgcatt aaaaatttcg gntggggcna cctcnnagca naaccaacc tccgagcaac      240
tcatgctaag acttcaccag tcaaagctga actactatac tcaattgatc caataacttg      300
accaacagan caagntaccc tagggataac ancacaatcc tattctagac cccttatnac      360
caatangntt tacacctcna tngnggaacc aggacatccg atggggcagn cgttattaaa      420

```

gttngttgnt aacnataaag tctacgtgat ctgagttag

459

<210> 167
 <211> 464
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(464)
 <223> n = A,T,C or G

<400> 167
 gaattgggac caacganaan cntgcggntc ttnttttgcg tccanngccc agctnattgc 60
 tcagacacac atgggggaagg tnaaggtcgg gagtcaacng atttggtngt attgnagcgt 120
 ttggtcacca gngctgcttt taactctggn aaagtggata ttgttgcacg naatgacccc 180
 tncattgacc tnaactacat ggtttacatg ttccaatatg attccaccca tggcaaattc 240
 catngcaccg tnaaggctga gaacgggaag cttgtnatca atggaaatcc catcaccatc 300
 tttcangaac ganatccntn caaaaatcaa anttgggggc gatgcttggc cnccttgaagt 360
 accgttcaan gggaannncc ccactttggc cgtnttttnc aanccacccc caatttgggn 420
 aaaaaaaaag gggnttttgg gggggggcct tttanntttt tttt 464

<210> 168
 <211> 462
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(462)
 <223> n = A,T,C or G

<400> 168
 ggcacgaggn nnaacctncc gggctggggc agcacgcctt gngcaancct gcactgcact 60
 gaagaccccg tgccggaagc cgnnggcngc nacatgcagn aactgaacca gctgggcgcg 120
 cancagttct cagacctgac agaggtgctt ttacacttcc taactgatcc anantangtg 180
 gaaatatnt tngttinatnt catntgaatn atccancc aatcatancc nntttinatn 240
 cctcataanc nttgagaana gcnnccttnt gnttncanan ggtgctntga anangagtct 300
 cacangcaan caggtccaag cggatttnt aactntgggt cttantgang agaaagncac 360
 ttacttttct gaaanccgga agcagaatgc tcccaccctt gctcgatggg ccatacgtca 420
 agactctgat gattaaccag ctttanatat ggacnggaaa tt 462

<210> 169
 <211> 460
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(460)
 <223> n = A,T,C or G

<400> 169
 ggcacgaggg acagcagacn agacagtcac agcagccttg acaaaacgtt cctggaactc 60
 aagntcttnt ncncaaagga ggacagagca nacagcagag accatggant ctncctcggc 120
 ccctcccccac agatggtgca tcccctggca naggtcctg ctacagcct cacttctaac 180
 cttctggaac ccgcccacca ctgccaagct cactattgaa tccacgccgt tcaatgnntc 240
 ntaggggaag gagngcctt ctactnttnc acaatctgan ccccttcttn tttggttact 300

```

ancatggctc tncatgtnaa aatactggna tggntaacct gtcaaattta taggnantnt 360
gctaattggg aaactnccnn tngtctaccc caggggnccc agattcctnn gttencataa 420
cnattaattt aaccocctaat gncaanccct tngttaaaga 460

```

```

<210> 170
<211> 508
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(508)
<223> n = A,T,C or G

```

```

<400> 170
ggcacgaggg ggatttttag gtggtcnggt gtggtatcag gaataatgtg ggaggccaga 60
ttgaagtcca ggccaggaac aatggtaatt gtgggactta agaaagtgtg agtacagctg 120
aatgagccgg ggagcagaaa gtatatgcgt caggatagag gaagaaaata gatttttgaa 180
gttatgagaa atgtagagag tgagttgagc atagtttgtg attttgaggg cctctaacag 240
tattaaagca gcggcagcgg ctgcacacag acatgatggc taggctaaaa caggaagggtc 300
aagttgtttg gacagaaagg ctacagggtg cagtcctggc tcttgtgtaa gaattctgac 360
cacactaacc atgcctagga aggaaaggag ttgttctttt gtaagggtt gaggtttggg 420
agattaatcg gacacgatca gcaggagag cacctgtgtt tttatgagaa ttatgctgag 480
ataggttaaca gatgaggatg aaatttgg 508

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```

<210> 171
<211> 507
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(507)
<223> n = A,T,C or G

```

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<400> 171
ggcacgagac cagccactag cgcagnctcg agcgatggcc tatgtccccg caccgggcta 60
ccagcccacc tacaaccgga cgctgcctta ctaccagccc atcccggggc ggctcaacgt 120
gggaatgtct gttacatcc aaggagtggc cagcgagcac atgaagcggc tcttcgtgaa 180
ctttgtggtt gggcaggatc cgggctcaga cgtcgccttc cacttcaatc cgcggtttga 240
cggctgggac aaggtggtct tcaacacggt gcagggcggg aagtggggca gcgaggagag 300
gaagaggagc atgcccttca aaaagggtgc cgcctttgag ctggtcttca tagtcctggc 360
tgagcactac aaggtggttg taaatggaaa tcccttctat gagtacgggc accggcttcc 420
cctacagatg gtcacccacc tgcaagtgga tggggatctg caacttcaat caatcaactt 480
catcggaggg cagccoctcc ggcccca 507

```

```

<210> 172
<211> 409
<212> DNA
<213> Homo sapien

```

```

<400> 172
ggcacgagct ggagtgtctg ctgccacccc ctcgctctct gcagaaatgt ctgtcaccta 60
cgatgactct gtgggagtgg aagtgtccag cgacagcttc tgggaggttg ggaactacaa 120
acggactgtg aagcggattg acgatggcca cgcctgtgt ggtgacctca tgaactgtct 180
gcatgagcgg gcacgcctcg agaaggcgta tgcacagcag ctactgagt gggcccgacg 240
ctggaggcag ctggtagaga agggaccaca gtatgggacc gtggagaagg cctggatagc 300
tgtcatgtct gaagcagaga gggtagtgta actgcacctg gaagtgaagg catcactgat 360

```

gaatgaagac tttgagaaga tcaagaactg gcagaaggaa gcctttcac 409

<210> 173
 <211> 409
 <212> DNA
 <213> Homo sapien

<400> 173
 ggcacgaggg cagctagagg aagagtccaa ggccaagaac gcactggccc acgccctgca 60
 gtcagctcgc catgactgtg acctgctgcg ggaacagtat gaagaggagc aggaagccaa 120
 ggctgagctg cagagggcca tgtccaaggc caacagcgag gttagcccagt ggaggacgaa 180
 atatgagacg gatgccatcc agcgcacaga ggagctggaa gaggccaaga agaagctggc 240
 tcagcgtctg caggatgctg aggaacatgt agaagctgtg aattccaaat gcgcttctct 300
 tgaaaagacg aagcagcgac ttcagaatga agtggaggac ctcattgattg acgtggagag 360
 gtctaattgct gcctgcgctg cgcttgataa gaagcagagg aactttgac 409

<210> 174
 <211> 407
 <212> DNA
 <213> Homo sapien

<400> 174
 ggcacgagcc gggcgggggc gcggcgctcc ggctcgaggc attcgagact gcgggagccg 60
 ggctggcagg agcaggatgg cggcgggcgc ggctgcaggc gaggcgcgcc ggggtgctgt 120
 gtacggcggc aggggcgctc tgggttctcg atgctgcag gcttttcggg cccgcaactg 180
 gtgggttgc agcgttgatg tgggtggagaa tgaagaggcc agcgttagca tcattgttaa 240
 aatgacagac tcgttcactg agcaggctga ccagggtgact gctgagggtg gaaagctctt 300
 ggggtgaagag aaggtggatg caattctttg cgttgctgga ggatgggccc ggggcaatgc 360
 caaatccaag tctctcttta agaactgtga cctgatgtgg aagcaga 407

<210> 175
 <211> 407
 <212> DNA
 <213> Homo sapien

<400> 175
 ggcacgagct tgcccgtcgg tcgctagctc gctcgggtgcg cgtcgtcccg ctccatggcg 60
 ctcttcgtgc ggctgctggc tctcgccctg gctctggccc tgggccccgc cgcgaccctg 120
 gcgggtcccc ccaagtcgcc ctaccagctg gtgctgcagc acagcaggct ccggggccgc 180
 cagcacggcc ccaacgtgtg tgtgtgcag aagggtattg gactaatag gaagtacttc 240
 accaactgca agcagtggta ccaaaggaaa atctgtggca aatcaacagt catcagctac 300
 gagtgtgtc ctggatatga aaaggtccct ggggagaagg gctgtccagc agccctacca 360
 ctctcaaaacc ttacgagac cctgggagtc gttggatcca ccaccac 407

<210> 176
 <211> 409
 <212> DNA
 <213> Homo sapien

<400> 176
 ggcacgagtg gtgccccaaac gggaccatgc cctcctggag gagcagagca agcagcagtc 60
 caacgagcac ctgcgcgcgc agttcgccag ccaggccaat gttgtggggc cctggatcca 120
 gaccaagatg gaggagatcg ggcgcattct cattgagatg aacgggaccc tggaggacca 180
 gctgagccac ctgaagcagt atgaacgcag catcgtggac tacaagcccc acctggacct 240
 gctggagcag cagcaccagc tcatccagga ggccctcctc ttgcacaaca agcacaccaa 300
 ctataccatg gagcacatcc gcgtgggctg ggagcagctg ctcaccacca ttgccgcgac 360
 catcaacgag gtggagaacc agatcctcac ccgcgacgcc aagggcac 409

<210> 177
 <211> 408
 <212> DNA
 <213> Homo sapien

<400> 177
 ggcacgaggt ccaggtaact gcaaaaacaa tggctcagca tgaagaactg atgaagaaaa 60
 ctgaaacaat gaatgtagtt atggagacca ataaaatgct aagagaagag aaggagcagg 120
 ttcaaaaaat ggcatcagtc cgtcagcatt tggaagaaac aacacagaaa gcagaatcac 180
 agttgttgga gtgtaaagca tcttgggagg aaagagagag aatgttaaag gatgaagttt 240
 ccaaatgtgt atgtcgtgt gaagatctgg agaaacaaaa cagattactt catgatcaga 300
 tcgaaaaatt aagtgacaag gtcgttgccct ctgtgaagga aggtgtacaa ggtccactga 360
 atgtatctct cagtgaagaa ggaaatctc aagaacaaat tttggaaa 408

<210> 178
 <211> 92
 <212> DNA
 <213> Homo sapien

<400> 178
 ggcacgagaa gaaattaaga gctaaagaca aggagaatga aaatatgggt gcaaagctga 60
 acaaaaaagt taaagagcta gaagaggaga tg 92

<210> 179
 <211> 411
 <212> DNA
 <213> Homo sapien

<400> 179
 ggcacgagga gacacgccac ctataccaca gttctcagaa tgaattagct aagttggaat 60
 cagaacttaa gagtctcaaa gaccagttga ctgatttaag taactcttta gaaaaatgta 120
 aggaacaaaa aggaacttg gaaggatca taaggcagca agaggctgat attcaaaatt 180
 ctaagttcag ttatgaacaa ctggagactg atcttcaggc ctccagagaa ctgaccagta 240
 ggctgcatga agaaataaat atgaaagagc aaaagattat aagcctgctt tctggcaagg 300
 aagaggcaat ccaagtagct attgctgaac tgcgtcagca acatgataaa gaaattaaag 360
 agctggaaaa cctgctgtcc caggaggaag aggagaatat tgttttagaa g 411

<210> 180
 <211> 411
 <212> DNA
 <213> Homo sapien

<400> 180
 ggcacgaggt tggtcggagc gggcgagcgg agttagcagg gctttactgc agagcgcgcc 60
 gggcactcca gcgaccgtgg ggatcagcgt aggtgagctg tggccttttg cgaggtgctg 120
 cagccatagc tacgtgcgtt cgctacgagg attgagcgtc tccaccatc ttctgtgctt 180
 caccatctac ataatgaatc ccagtatgaa gcagaaacaa gaagaaatca aagagaatat 240
 aaagactagt tctgtcccaa gaagaactct gaagatgatt cagccttctg catctggatc 300
 tcttgttgga agagaaaatg agctgtccgc aggttgtcc aaaaggaaac atcggaatga 360
 ccacttaaca tctacaactt ccagccctgg ggttattgtc ccagaatcta g 411

<210> 181
 <211> 411
 <212> DNA
 <213> Homo sapien

<400> 181
 ggcacgaggc gggacagggc gaagcggcct gcgccacgg agcgcgcgac actgcccgga 60

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agggaccgcc acccttgccc cctcagctgc ccaactcgtga tttccagcgg cctccgcgcg 120
cgcacgatgc cctcggccac cagccacagc gggagcggca gcaagtcgtc cggaccgcca 180
ccgccgtcgg gttcctccgg gagtgaggcg gccgcgggag ccggggccgc cgcgccggct 240
tctcagcacc ccgcaaccgg caccggcgct gtccagaccg aggccatgaa gcagattctc 300
ggggtgatcg acaagaaact tcggaacctg gagaagaaaa agggtaagct tgatgattac 360
caggaacgaa tgaacaaagg ggaaaggctt aatcaagatc agctggatgc c 411

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```

<210> 182
<211> 411
<212> DNA
<213> Homo sapien

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```

<400> 182
ggcacgagcc gacatggagc tgttctcgc gggcgcggcg gtgctgggtc ccggggcagg 60
caaagggtata gggcgcggca cggtcaggcg gctgcacgcg acggggcgcg ggggtgggtggc 120
tgtgagccgg actcagggcg atcttgacag ccttggtccgc gagggtcccg ggatagaacc 180
cgtgtgcgtg gacctgggtg actgggagcg caccgagcgg gcgctgggca gcgtgggccc 240
cgtggacctg ctggtgaaca acgcgcgtgt cgcctgtctg cagcccttcc tggagggtcac 300
caaggaggcc tttagacagat ctttgagggt gaacctgcgt gcggtcatcc aggtgtcgca 360
gattgtggcc aggggcttaa tagcccgggg agtcccaggg gccatcgtga a 411

```

```

<210> 183
<211> 409
<212> DNA
<213> Homo sapien

```

```

<400> 183
ggcacgagcc tacactctgg ccagagatac cacagtcaaa cctggagcca aaaaggacac 60
aaaggactct cgacccaaac tgcccagac cctctccaga ggttggggtg accaactcat 120
ctggactcag acatatgaag aagctctata taaatccaag acaagcaaca aacccttgat 180
gattattcat cacttggatg agtgcccaca cagtcaagct ttaaagaaag tgtttgctga 240
aaataaagaa atccagaaat tggcagagca gtttgtcctc ctcaatctgg tttatgaaac 300
aactgacaaa cacctttctc ctgatggcca gtatgtcccc aggattatgt ttgttgaccc 360
atctctgaca gttagagccg atatcactgg aagatattca aatcgtctc 409

```

```

<210> 184
<211> 410
<212> DNA
<213> Homo sapien

```

```

<400> 184
ggcacgaggt cattccagca ccaacaggat ccaagccaga ttgattgggc tgcattggcc 60
caagcttggg ttgcccagg agaagcttca ggacagcaaa gcatggtaga acaaccacca 120
ggaatgatgc caaatggaca agatatgtct acaatggaat ctggtccaaa caatcatggg 180
aatttccaag gggattcaaa cttcaacaga atgtggcaac cagaatgggg aatgcatcag 240
caacccccac acccccctcc agatcagcca tggatgccac caacaccagg cccaatggac 300
attgttctc cttctgaaga cagcaacagt caggacagtg gggaatttgc ccctgacaac 360
aggcatatat ttaaccagaa caatcacaac tttggtggac caccggataa 410

```

```

<210> 185
<211> 411
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(411)
<223> n = A,T,C or G

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<400> 185

ggcacgagca	cagatgtagt	tttctctgcg	cgtgtgcgtt	ttccctctct	ccccgccctc	60
aggggtccacg	gccaccatgg	cgtattaggg	gcagcagtg	ctgcggcagc	attggccttt	120
gcagcggcgg	cagcagcacc	aggtcttgca	gcggcaaccc	ccagcggctt	aagccatggc	180
gcttctcacg	gattccagca	gcagcgttgc	tgtaaccgac	aaagacacct	tcgaattaag	240
cacattcctc	gattccagca	aagcaccgca	acatgaccga	aatgagcttc	ctgagcagcg	300
aggtgttgg	gggggacttg	atgtccccct	tcgaccgctc	gggtttgggg	gctgaagaaa	360
gcctangtct	cttagatgat	tacctggagg	tggccaagca	cttcaaacct	c	411

<210> 186

<211> 410

<212> DNA

<213> Homo sapien

<400> 186

ggcacgagct	tctagtcccg	ccatggccgc	tctcaccggg	gacccccagt	tccagaagct	60
gcagcaatgg	taccgcgagc	accgctccga	gctgaacctg	cgccgcctct	tcgatgccaa	120
caaggaccgc	ttcaaccact	tcagcttgac	cctcaacacc	aacctatggc	atatacctgt	180
ggattactcc	aagaacctgg	tgacggagga	cgtgatgcgg	atgctggtgg	acttggccaa	240
gtccaggggc	gtggaggccg	cccgggagcg	gatgttcaat	ggtgagaaga	tcaactacac	300
cgagggtcga	gccgtgctgc	acgtggctct	gcggaaccgg	tcaaacacac	ccatcctggt	360
agacggcaag	gatgtgatgc	cagaggtcaa	caaggttctg	gacaagatga		410

<210> 187

<211> 506

<212> DNA

<213> Homo sapien

<400> 187

ctttcgtggc	tactccctt	tcctctgctg	ccgctcggtc	acgcttgtgc	ccgaaggagg	60
aaacagtgac	agacctggag	actgcagttc	tctatccttc	acacagctct	ttcaccatgc	120
ctggatcact	tcctttgaat	gcagaagctt	gctggccaaa	agatgtggga	attgttgccc	180
ttgagatcta	ttttccttct	caatatgttg	atcaagcaga	gttggaaaaa	tatgatggtg	240
tagatgctgg	aaagtatacc	attggcttgg	gccaggccaa	gatgggcttc	tgacagata	300
gagaagatat	taactctctt	tgcatgactg	tggttcagaa	tcttatggag	agaaataacc	360
tttctatga	ttgcattggg	cggctggaag	ttggaacaga	gacaatcctc	gacaaatcaa	420
agtctgtgaa	gactaatttg	atgcagctgt	ttgaagagtc	tggaataaca	gatatagaag	480
gaatcgacac	aactaatgca	tgctat				506

<210> 188

<211> 506

<212> DNA

<213> Homo sapien

<400> 188

gccacagagg	cggcggagag	atggccttca	gcggttccca	ggctccctac	ctgagtcag	60
ctgtccctt	ttctgggact	attcaaggag	gtctccagga	cggacttcag	atcactgtca	120
atgggaccgt	tctcagctcc	agtggaaacca	ggtttgctgt	gaactttcag	actggcttca	180
gtggaaatga	cattgccttc	cacttcaacc	ctcggtttga	agatggaggg	tacgtggtgt	240
gcaacacgag	gcagaacgga	agctgggggc	ccgaggagag	gaagacacac	atgcctttcc	300
agaaggggat	gccctttgac	ctctgcttcc	tggtgcagag	ctcagatttc	aaggtgatgg	360
tgaacgggat	cctcttcgtg	cagtacttcc	accgcgtgcc	cttccaccgt	gtggacacca	420
tctccgtcaa	tggtctctgt	cagctgtcct	acatcagctt	ccagcctccc	ggcgtgtggc	480
ctgccaaacc	ggctcccat	acccag				506

<210> 189

<211> 399

<212> DNA

<213> Homo sapien

<400> 189

ctggacagga	gaagagcctg	gctgctgaag	gcagggctga	cacgaccacg	ggcagcattg	60
ctggagcccc	agaggatgaa	agatcgaga	gcacagcccc	ccaggcacca	gagtgtttcg	120
accctgccgg	accggctggg	ctcgtgaggc	cgacatctgg	cctttccag	ggcccaggaa	180
aggaaacctt	ggaaagtgt	ctaactcgctc	tagactctga	aaaacccaag	aaacttcgct	240
tccacccaaa	gcagctgtac	ttctctgcca	ggcaggggtga	gctgcagaag	gtgtttctca	300
tgctggttga	tggaattgat	cccaacttca	aaatggagca	ccaaagtaag	cgttcccat	360
tacatgtctg	tcgggaggct	ggccacgtgg	acatctgcc			399

<210> 190

<211> 401

<212> DNA

<213> Homo sapien

<400> 190

cggcgacggt	ggtggtgact	gagcggagcc	cggtgacagg	atgttggtgt	tggtattagg	60
agatctgcac	atcccacacc	ggtgcaacag	tttgccagct	aaattcaaaa	aactcctggt	120
gccaggaaaa	attcagcaca	ttctctgcac	aggaaacctt	tgcaccaaag	agagtattga	180
ctatctcaag	actctggctg	gtgatgttca	tattgtgaga	ggagacttcg	atgagaatct	240
gaattatcca	gaacagaaa	ttgtgactgt	tggaacagttc	aaaattggtc	tgatccatgg	300
acatcaagtt	attccatggg	gagatatggc	cagcttagcc	ctgttgacga	ggcaatttga	360
tgtggacatt	cttatctcgg	gacacacaca	caaatttgaa	g		401

<210> 191

<211> 406

<212> DNA

<213> Homo sapien

<400> 191

tggcagccta	agccgtggga	gggttccagt	cgagaatggg	aagatgaaag	acttcagatg	60
gaacagaaat	aaatgccttt	tttgacaaac	gcagcagtgc	gtgcctctag	cttgcaagag	120
cgttactccc	cttcatagct	ttaaaagggt	ttcgcaactgc	gtgcagttag	agtagctaaa	180
tcttgtgtga	cgctccacaa	acacttgtaa	gaattttgca	gagaaagata	accgttgcca	240
cccaatgccc	cccacaggca	ttctactccc	cagtacctct	taggggtggga	gaaatgggtga	300
agagttgttc	ctacaacttg	ctaacctagt	ggacagggtga	gtagattagc	atcatccgga	360
tagatgtgaa	gaggacggct	gtttggataa	taattaagga	taaaaat		406

<210> 192

<211> 316

<212> DNA

<213> Homo sapien

<400> 192

ccccggggagg	ccctgggtcat	aaaactttta	attttactag	tgttacttaa	tgtatattct	60
aaaaagagaa	tgcaagtaact	aatgcccata	atgtttgatc	tctgtttgtc	attacttttt	120
caaaattatt	tttttctgta	aagtataata	tataaaactt	cttgcttaaa	ttgaatttct	180
atattagtgg	ttaattgcag	tttattaaag	ggatcattat	cagtaatttc	atagcaactg	240
ttctagtgtt	ttgtgttttt	aaaacagaat	taggaatttg	agatatctga	ttatattttt	300
catatgaatc	acagac					316

<210> 193

<211> 146

<212> DNA

<213> Homo sapien

<400> 193
 gaaacatgga ctgcccctta aattttgact gtcctaaaaa cctattttctg atttataata 60
 tgctgcctga taaagtga caagatgtac cagctgagtg tttaatcttc ccatcacaga 120
 tcagatttga gcattaacag gtattt 146

<210> 194
 <211> 405
 <212> DNA
 <213> Homo sapien

<400> 194
 cggatgtgct cactgacatt ctactccaag tcggagatgc agatccactc caagtcacac 60
 accgagacca agccccacaa gtgcccacat tgctccaaga ccttcgcca cagctcctac 120
 ctggcccagc acatccgtat aactcagggt gctaagccct acagttgtaa cttctgtgag 180
 aaatccttcc gccagctctc ccaccttcag cagcacaccc gaatccacac tggatgata 240
 caatacaaat gtgcacaccc aggtgtgtgag aaagccttca cacaactctc caatctgcag 300
 tcccacagac ggcaacacaa caaagataaa cccttcaagt gccacaactg tcatcgggag 360
 tacacggatg cagcctcact agaggtgcac ctgtctacgc acaca 405

<210> 195
 <211> 421
 <212> DNA
 <213> Homo sapien

<400> 195
 agaattcggc acgagctact cettgcgcg c tggcactccg cagcctttaa ggttcgcgcg 60
 ggggcccagg aagagtttagc catgaagagc ctcaagtccc gcctgaggag gcaggacgtg 120
 cccggccccc cgtcgtctgg cgcgcgcgc atgcagcaga ttggaataaa 180
 tatgatgacc gattgatgaa agcagcagaa aggggggatg tagaaaaagt gacgtcaatc 240
 cttgctaaaa agggggtcaa tccaggcaaa ctagatgtgg aaggcagatc tgtcttccat 300
 gttgtgacct caaaggggaa tcttgagtgt ttgaatgcca tccttataca tggagttgat 360
 attacaacca gtgacactgc agggagaaat gctcttcacc tggctgctaa gtatggacat 420
 g 421

<210> 196
 <211> 476
 <212> DNA
 <213> Homo sapien

<400> 196
 agaattgatc tatagattta atgcaatgcc tactaaaatc ccagtacgat tttttacagg 60
 catagacaat agacatagcc aaaacttatt ctaaaataca tatgaagatg cacaggccct 120
 agttatacaa tcttgacaaa gaagaataaa gtgggaagaa tctatttgat ttttaaggctt 180
 accatgtaac tacagtcatac aagagagtgt ggtatcggca gacggtcaga catacagatc 240
 aatggaatgt aacagaggac ccagaaatag gccacacag atatgctcaa tggatatttg 300
 acaagcgtgc aaaacaattc aatggaagaa taagctttca aaaaaatggc gttggagcaa 360
 ccggacatcc ataggaaaaa atgaacccat acctaaacca taaaccttat ataaaaataa 420
 acacaaaatg aatcataggc ttaaattgtaa gctataaaac ttttagagaa aaacac 476

<210> 197
 <211> 503
 <212> DNA
 <213> Homo sapien

<400> 197
 tagccctcgg tgaagcccca gaccacagct atgagtcctt tcgtgtgacg tctgcgacga 60
 aacatgttct gcatgtccag ctcaaccggc ccaacaagag gaatgccatg aacaaggtct 120
 tctggagaga gatggtagag tgcttcaaca agatttcgag agacgtgacg tgcgggcgg 180

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tggtgatctc tggtgcagga aaaatgttca ctgcaggtat tgacctgatg gacatggctt 240
cggacatcct gcagcccaaa ggagatgatg tggcccggat cagctggtag ctccgtgaca 300
tcatactcg ataccaggag accttcaacg tcatcgagag gtgcccgaag cccgtgattg 360
ctgccgtcca tgggggctgc attggcggag gtgtggacct tgtcaccgcc tgtgacatcc 420
ggatctgtgc ccaggatgct ttcttccagg tgaaggaggt ggacgtgggt ttggctgccc 480
atgtaggaac actgcagcgc ctg 503

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<210> 198
 <211> 168
 <212> PRT
 <213> Homo sapien

<400> 198

Phe	Val	Ala	His	Ser	Leu	Ser	Ser	Ala	Ala	Ala	Arg	Ser	Arg	Leu	Cys
1				5					10					15	
Pro	Lys	Glu	Glu	Thr	Val	Thr	Asp	Leu	Glu	Thr	Ala	Val	Leu	Tyr	Pro
			20					25					30		
Ser	His	Ser	Ser	Phe	Thr	Met	Pro	Gly	Ser	Leu	Pro	Leu	Asn	Ala	Glu
		35				40					45				
Ala	Cys	Trp	Pro	Lys	Asp	Val	Gly	Ile	Val	Ala	Leu	Glu	Ile	Tyr	Phe
	50				55					60					
Pro	Ser	Gln	Tyr	Val	Asp	Gln	Ala	Glu	Leu	Glu	Lys	Tyr	Asp	Gly	Val
65				70					75					80	
Asp	Ala	Gly	Lys	Tyr	Thr	Ile	Gly	Leu	Gly	Gln	Ala	Lys	Met	Gly	Phe
			85					90					95		
Cys	Thr	Asp	Arg	Glu	Asp	Ile	Asn	Ser	Leu	Cys	Met	Thr	Val	Val	Gln
		100					105					110			
Asn	Leu	Met	Glu	Arg	Asn	Asn	Leu	Ser	Tyr	Asp	Cys	Ile	Gly	Arg	Leu
		115				120						125			
Glu	Val	Gly	Thr	Glu	Thr	Ile	Ile	Asp	Lys	Ser	Lys	Ser	Val	Lys	Thr
	130					135				140					
Asn	Leu	Met	Gln	Leu	Phe	Glu	Glu	Ser	Gly	Asn	Thr	Asp	Ile	Glu	Gly
145				150					155					160	
Ile	Asp	Thr	Thr	Asn	Ala	Cys	Tyr								
				165											

<210> 199
 <211> 168
 <212> PRT
 <213> Homo sapien

<400> 199

His	Arg	Gly	Gly	Gly	Glu	Met	Ala	Phe	Ser	Gly	Ser	Gln	Ala	Pro	Tyr
1				5					10					15	
Leu	Ser	Pro	Ala	Val	Pro	Phe	Ser	Gly	Thr	Ile	Gln	Gly	Gly	Leu	Gln
		20						25					30		
Asp	Gly	Leu	Gln	Ile	Thr	Val	Asn	Gly	Thr	Val	Leu	Ser	Ser	Ser	Gly
	35					40					45				
Thr	Arg	Phe	Ala	Val	Asn	Phe	Gln	Thr	Gly	Phe	Ser	Gly	Asn	Asp	Ile
	50				55					60					
Ala	Phe	His	Phe	Asn	Pro	Arg	Phe	Glu	Asp	Gly	Gly	Tyr	Val	Val	Cys
65				70					75					80	
Asn	Thr	Arg	Gln	Asn	Gly	Ser	Trp	Gly	Pro	Glu	Glu	Arg	Lys	Thr	His
			85					90					95		
Met	Pro	Phe	Gln	Lys	Gly	Met	Pro	Phe	Asp	Leu	Cys	Phe	Leu	Val	Gln
		100					105					110			
Ser	Ser	Asp	Phe	Lys	Val	Met	Val	Asn	Gly	Ile	Leu	Phe	Val	Gln	Tyr
	115					120					125				

Phe His Arg Val Pro Phe His Arg Val Asp Thr Ile Ser Val Asn Gly
 130 135 140
 Ser Val Gln Leu Ser Tyr Ile Ser Phe Gln Pro Pro Gly Val Trp Pro
 145 150 155 160
 Ala Asn Pro Ala Pro Ile Thr Gln
 165

<210> 200
 <211> 132
 <212> PRT
 <213> Homo sapien

<400> 200
 Gly Gln Glu Lys Ser Leu Ala Ala Glu Gly Arg Ala Asp Thr Thr Thr
 1 5 10 15
 Gly Ser Ile Ala Gly Ala Pro Glu Asp Glu Arg Ser Gln Ser Thr Ala
 20 25 30
 Pro Gln Ala Pro Glu Cys Phe Asp Pro Ala Gly Pro Ala Gly Leu Val
 35 40 45
 Arg Pro Thr Ser Gly Leu Ser Gln Gly Pro Gly Lys Glu Thr Leu Glu
 50 55 60
 Ser Ala Leu Ile Ala Leu Asp Ser Glu Lys Pro Lys Lys Leu Arg Phe
 65 70 75 80
 His Pro Lys Gln Leu Tyr Phe Ser Ala Arg Gln Gly Glu Leu Gln Lys
 85 90 95
 Val Leu Leu Met Leu Val Asp Gly Ile Asp Pro Asn Phe Lys Met Glu
 100 105 110
 His Gln Ser Lys Arg Ser Pro Leu His Ala Ala Ala Glu Ala Gly His
 115 120 125
 Val Asp Ile Cys
 130

<210> 201
 <211> 120
 <212> PRT
 <213> Homo sapien

<400> 201
 Met Leu Val Leu Val Leu Gly Asp Leu His Ile Pro His Arg Cys Asn
 1 5 10 15
 Ser Leu Pro Ala Lys Phe Lys Lys Leu Leu Val Pro Gly Lys Ile Gln
 20 25 30
 His Ile Leu Cys Thr Gly Asn Leu Cys Thr Lys Glu Ser Tyr Asp Tyr
 35 40 45
 Leu Lys Thr Leu Ala Gly Asp Val His Ile Val Arg Gly Asp Phe Asp
 50 55 60
 Glu Asn Leu Asn Tyr Pro Glu Gln Lys Val Val Thr Val Gly Gln Phe
 65 70 75 80
 Lys Ile Gly Leu Ile His Gly His Gln Val Ile Pro Trp Gly Asp Met
 85 90 95
 Ala Ser Leu Ala Leu Leu Gln Arg Gln Phe Asp Val Asp Ile Leu Ile
 100 105 110
 Ser Gly His Thr His Lys Phe Glu
 115 120

<210> 202
 <211> 135
 <212> PRT

<213> Homo sapien .

<400> 202

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Arg Met Cys Ser Leu Thr Phe Tyr Ser Lys Ser Glu Met Gln Ile His
 1          5          10          15
Ser Lys Ser His Thr Glu Thr Lys Pro His Lys Cys Pro His Cys Ser
 20          25          30
Lys Thr Phe Ala Asn Ser Ser Tyr Leu Ala Gln His Ile Arg Ile His
 35          40          45
Ser Gly Ala Lys Pro Tyr Ser Cys Asn Phe Cys Glu Lys Ser Phe Arg
 50          55          60
Gln Leu Ser His Leu Gln Gln His Thr Arg Ile His Thr Gly Asp Arg
 65          70          75          80
Pro Tyr Lys Cys Ala His Pro Gly Cys Glu Lys Ala Phe Thr Gln Leu
 85          90          95
Ser Asn Leu Gln Ser His Arg Arg Gln His Asn Lys Asp Lys Pro Phe
 100         105         110
Lys Cys His Asn Cys His Arg Ala Tyr Thr Asp Ala Ala Ser Leu Glu
 115         120         125
Val His Leu Ser Thr His Thr
 130         135

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<210> 203

<211> 135

<212> PRT

<213> Homo sapien

<400> 203

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Leu Leu Leu Ala Arg Trp His Ser Ala Ala Phe Lys Val Arg Ala Gly
 1          5          10          15
Ala Arg Gln Glu Leu Ala Met Lys Ser Leu Lys Ser Arg Leu Arg Arg
 20          25          30
Gln Asp Val Pro Gly Pro Ala Ser Ser Gly Ala Ala Ala Ser Ala
 35          40          45
His Ala Ala Asp Trp Asn Lys Tyr Asp Asp Arg Leu Met Lys Ala Ala
 50          55          60
Glu Arg Gly Asp Val Glu Lys Val Thr Ser Ile Leu Ala Lys Lys Gly
 65          70          75          80
Val Asn Pro Gly Lys Leu Asp Val Glu Gly Arg Ser Val Phe His Val
 85          90          95
Val Thr Ser Lys Gly Asn Leu Glu Cys Leu Asn Ala Ile Leu Ile His
 100         105         110
Gly Val Asp Ile Thr Thr Ser Asp Thr Ala Gly Arg Asn Ala Leu His
 115         120         125
Leu Ala Ala Lys Tyr Gly His
 130         135

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<210> 204

<211> 167

<212> PRT

<213> Homo sapien

<400> 204

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Ala Leu Gly Glu Ala Pro Asp His Ser Tyr Glu Ser Leu Arg Val Thr
 1          5          10          15
Ser Ala Gln Lys His Val Leu His Val Gln Leu Asn Arg Pro Asn Lys
 20          25          30
Arg Asn Ala Met Asn Lys Val Phe Trp Arg Glu Met Val Glu Cys Phe

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35	40	45
Asn Lys Ile Ser Arg Asp	Ala Asp Cys Arg Ala	Val Val Ile Ser Gly
50	55	60
Ala Gly Lys Met Phe Thr	Ala Gly Ile Asp Leu	Met Asp Met Ala Ser
65	70	75
Asp Ile Leu Gln Pro Lys	Gly Asp Asp Val Ala	Arg Ile Ser Trp Tyr
85	90	95
Leu Arg Asp Ile Ile Thr	Arg Tyr Gln Glu Thr	Phe Asn Val Ile Glu
100	105	110
Arg Cys Pro Lys Pro Val	Ile Ala Ala Val His	Gly Gly Cys Ile Gly
115	120	125
Gly Gly Val Asp Leu Val	Thr Ala Cys Asp Ile	Arg Tyr Cys Ala Gln
130	135	140
Asp Ala Phe Phe Gln Val	Lys Glu Val Asp Val	Gly Leu Ala Ala His
145	150	155
Val Gly Thr Leu Gln Arg	Leu	
165		

<210> 205

<211> 381

<212> DNA

<213> Homo sapien

<400> 205

aaatttggga tcatcgccctg ttctgaaaac tagatgcacc aaccgtatca ttatttgttt	60
gaggaaaaaa agaaatctgc attttaattc atgttggtca aagtcgaatt actatctatt	120
tatcttatat cgtagatctg ataaccctat ctaaaagaaa gtcacacgct aaatgtattc	180
ttacatagtg cttgtatcgt tgcatttgtt ttaatttgtg gaaaagtatt gtatctaact	240
tgtattactt tggtagtttc atctttatgt attattgata tttgtaattt tctcaactat	300
aacaatgtag ttacgctaca acttgcctaa aacattcaaa cttgttttct tttttctgtt	360
gttttctttg ttaattcatt t	381

<210> 206

<211> 514

<212> DNA

<213> Homo sapien

<400> 206

aaaagtaaat tgcataaaat tacatccaat ttctttctct aaaccaacat attcttcacc	60
ttcacaaagc aaacacatgg tgcactgaaa cggagggtgt accagcttta catactgttc	120
tgccatttgt ggggggtgca accacaacat aagtcagaaa aaaagctatc cagcttttcg	180
tggaatctgg tgaagtttac acttagcgat aagcctctaa gcctgaactt agcagggcta	240
gcaaaacttt atttatttcc taactcctat tatttttagaa tggttttcaa aataatactg	300
caagttccta attgaaatac aaaacagaac aaaaagctgt gagaaatctt tttttttctt	360
tggctcctta aagacttgga ataatttata ttagtggtgc atacatttta ccttctacat	420
tttgatgtac ttgctcttga aagcactaga acaaattaat tgaaataaaa cctctctgaa	480
accatttgaa tctttgatcc taccatagag tttt	514

<210> 207

<211> 522

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(522)

<223> n = A,T,C or G

<400> 207
 caagcttttg gtgcatagca gccngcctgg aagcattctg agtgctctgt ctgccctggg 60
 gggtttcatt atcctgtctg tcaaacaggc caccttaaat cctgcctcac tgcagtgtga 120
 gttggacaaa aataatatac caacaagaag ttatgtttct tacttttata atgattcact 180
 ttataccacg gactgctata cagccaaagc cagtctggct ggaactctct ctctgatgct 240
 gatttgcaact ctgctggaat tctgcctagc tgtgctcact gctgtgctgc ggtggaaaca 300
 ggcttactct gacttccctg ggagtgtact tttcctgcct cacagttaca ttggtaattc 360
 tggcatgtcc tcaaaaatga ctcatgactg tggatatgaa gaactattga cttcttaaga 420
 aaaaaggag aaatattaat cagaaagttg attccttatga taatatggaa aagttaacca 480
 ttatagaaaa gcaaagcttg agtttcctaa atgtaagctt tt 522

<210> 208
 <211> 278
 <212> DNA
 <213> Homo sapien

<400> 208
 aaaatgcact accccttttt tccaacacgg agcttaaaac aaattaatga aagagtggaa 60
 aattcaaaat aagggcaaga gataaggttt tttttttttt tcctttaaga tagactcagg 120
 ataggtagat agctttcact gatgtagatg tggaaataat tattaacttca ggaaaaaaat 180
 tcccaaacat cttatgaaaa agtatacaac tctacttcaa aatatgctat ttactcactg 240
 ccaaagacag ttttatttga aatcttgttt ctgtattt 278

<210> 209
 <211> 234
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(234)
 <223> n = A,T,C or G

<400> 209
 cctcccaaat ttagcaggtg ctgggnagga ccctagggag tggtttatgg gggctagctg 60
 gtgaaactgc ctttccttt ctgttctatg agtgatgatg tgtttgagaa aatgtggggc 120
 tatggttcag gcgcacttca catgtgcaaa gatggagaaa gcactcacct acacgtttag 180
 gctcagaatg ttgattgaaa cattttgaat gatcaaaaaa aaaatgttat tttt 234

<210> 210
 <211> 186
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(186)
 <223> n = A,T,C or G

<400> 210
 aaaataactg atggcaaaat aaanatttta catcacatca tactgtgtaa acatgtaagg 60
 tctctgtaca aagaaatata catgcaaaat aatgtaaaaa ttttaactgaa ataataaaag 120
 aaacaatata caaataaaaa ttatgaggtt acgaatacac atccagtttc gaatccaatt 180
 tctttt 186

<210> 211
 <211> 403
 <212> DNA

<213> Homo sapien

<400> 211

aaaaattggg	aaaatattta	agtacaaaat	aagtagcttc	cagcgagggt	tttataccat	60
agtaagagca	cacaatagat	attactagca	cacatgggtt	atctgggagc	gctatagcta	120
caataaacct	aattatggaa	cagaaatttg	cattctgttt	ccagtgtctac	tacactccta	180
ctttctcaaa	agtcgtctct	attaatatca	gtcagtgca	gtttactatg	aatagtttat	240
gtctgtgatg	caaagcatta	attgttctct	ttttacaaac	atacattttt	ttcataagga	300
agactggggg	aaaaccaga	aacatacaga	gaaaaggaaa	gcatcatcaa	atatatgtta	360
aaaattaaga	tgatgtttac	tactagtcac	cctacaacaa	ttt		403

<210> 212

<211> 345

<212> DNA

<213> Homo sapien

<400> 212

cctctttatg	agttcattac	tgctgttcag	tctcggcaca	cagacacccc	tgtgcaccgg	60
gggtgtacttt	ctactctgat	cgctgggcct	gtggttgaga	taagtcacca	gctacggaag	120
gtttctgacg	tagaagagct	tacccctcca	gagcatcttt	ctgatcttcc	accattttca	180
aggtgtttaa	taggaataat	aataaagtct	togaatgtgg	tcaggtcatt	tttggatgaa	240
ttaaaggcat	gtgtggcttc	taatgatatt	gaaggcattg	tgtgcctcac	ggctgctgtg	300
catattatcc	tggttattaa	tgacagtaaa	cataaaagct	caaaa		345

<210> 213

<211> 318

<212> DNA

<213> Homo sapien

<400> 213

aaaatgtttt	attattttga	aaataatggt	gtaattcatg	ccagggactg	acaaaagact	60
tgagacagga	tggttattct	tgtcagctaa	ggtcacattg	tgcccttttg	accttttctt	120
cctggactat	tgaaatcaag	cttattggat	taagtatat	ttctatagcg	attgaaaggg	180
caatagttaa	agtaatgagc	atgatgagag	tttctgttaa	tcattgtatta	aaactgattt	240
ttagctttac	aaatatgtca	gtttgcagtt	atgcagaatc	caaagtaaat	gtcctgctag	300
ctagttaaagg	attgtttt					318

<210> 214

<211> 462

<212> DNA

<213> Homo sapien

<400> 214

aaacacatct	ggttctggca	gcaagttata	ttatgcattt	agagcaatag	gtgccctgaa	60
agttattggt	gctttttttg	tttttttttt	cagtttgtgc	gtgtcacttg	aatcagaaac	120
caaacacatg	taaaaaaata	tcactctcaa	tgcccccct	taactctctc	tccagaaggt	180
gacaatgtta	gtgaactcaa	gactctcact	gatgatggta	ttttacaatg	aaaacacaag	240
gaaacctttt	gaggtccaat	tttcacatca	tattctccaa	atagtataat	agcagctcta	300
catgttgatg	aaaagaaatt	tcaattttct	cctatttggt	tttactcata	tcaacattaa	360
tatgtatctg	gatttattaa	tttccaaaaa	gaaaatttta	gttaccaaat	atttcagaaa	420
tttaataaag	cattatatat	atgtaattag	cacttatcta	cc		462

<210> 215

<211> 280

<212> DNA

<213> Homo sapien

<400> 215

aaacttttct	gaaacgatta	gctgtagcca	aattatgtgg	ttacgttttg	ctacattaga	60
atttgaaaat	gcaatatgtg	tggtaaaatc	actgtttgaa	atttataatg	gtctctgata	120
tgattcgaat	tttggttaact	tttgaaaagt	atcttcccc	tttagtcatg	gatttctatt	180
tgttttttaa	tgtaaatatt	tctagaaagc	atctgaattg	actaggcttt	tcctatataa	240
aaaactcaaa	acttgtaaac	tctgtacttt	aataaaattt			280

<210> 216

<211> 210

<212> DNA

<213> Homo sapien

<400> 216

aaaatctctg	gcttcaaagt	ttottgggga	aaggctcggt	tacctacat	tttttgttct	60
cattagtaat	attctaggta	cctcacaaaa	tgtattatgg	tgccatggct	gttagttttt	120
agtgaagtgt	gtaggattaa	ttcgaaaata	ggcagaattc	cattcctccc	aagggtggcaa	180
aaattagcta	tactgatgta	attgtcattt				210

<210> 217

<211> 398

<212> DNA

<213> Homo sapien

<400> 217

ctggagctgc	tagaacttga	gatgagggca	agagcgatta	aagcccta	gaaagctggt	60
gatataaaaa	agccagccta	ggtattttaac	ttgattttga	atttttaggta	tgtttgaaca	120
aagccacatc	atttaatttt	gtatctaaaa	tttatttggg	gtcttataatg	ttattttctca	180
tgtaaccctt	attaggactc	atcttagccc	ttaaattacct	gtggctggtt	ctttttattt	240
ttttgactac	ttttatatta	taaatgtgtg	ttactgtctt	atgaattcat	ggcaatatag	300
ttggatagcc	tggaactttt	gttagatgag	tatttagctg	tgtctgcaaa	tcttaaaagc	360
cattagcaaa	gagtcgtggt	atctttttct	ttattttt			398

<210> 218

<211> 487

<212> DNA

<213> Homo sapien

<400> 218

ctgccgcg	tcaggtggt	taaagatcag	gtccccag	accttgcat	ttatgtcgcc	60
attctccagc	aagacctcag	tgccgaagac	ctctacgatg	cgccggtggg	cagggtatcc	120
tggtgcacg	acgtgcggg	ccatcacgtc	cacgtcaatc	accgcacagc	ccagtttcag	180
tgtttttaca	cattatattg	ttataatctc	acaataacta	taaattaggt	agaacaggaa	240
atgaggtttg	gagaagatac	ttgacttatc	cgaccatctg	tacttgtccc	atagtaagga	300
gcctcaagca	gagacaaagg	aggaagttgc	ctatgttgta	tggtttacag	gccataaatg	360
aatgtcatct	ttttcctccc	ctggggaaaa	atgtctcaaa	aatcccacca	taggacatga	420
catctccaga	acctctatta	caaaatacac	atctcctgta	gaggggtaac	aaatttggtg	480
taacctg						487

<210> 219

<211> 390

<212> DNA

<213> Homo sapien

<400> 219

aaaaaataca	ccacacgata	caactcaata	caggagtatt	tcttctcaaa	ttcttctagc	60
accatcaaca	ttcttcaagt	atctgaaata	ctatttaatta	gcacctttgt	attatgaaca	120
aaacaaaaca	aggacctcag	ttcatctctg	tctaggtcag	cacctaaaca	tgtggatcac	180
actcatggga	aagtgttttg	aggtagttta	aacctttgga	agtttgggtt	ttaaacttcc	240
ctctgtggaa	gatattcaaa	agccacaagt	ggtgcaaatg	tttatgggtt	ttatttttca	300

atttttattt tggtttttctt acaaagggttg acattttcca taacagggtg aagagtgttg 360
 aaaaaaaagt tcaaattttt gggggagcgg 390

<210> 220
 <211> 341
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(341)
 <223> n = A,T,C or G

<400> 220
 aaaacaggca aagtttttaca gagaggatac atttaataaa actgcgagga catcaaagtg 60
 gtaaatactg tgaaataacct tttctnnnca aaaggcaaat attgaagtgt tttatcaact 120
 tcgctagaaa aaaaaaaaca cttggcatac aaaatattta agtgaaggag aagtctaacg 180
 ctgaactnnn aatgaaggga aattgtttat gtgttatgaa catccaagtc tttcttcttt 240
 ttttaagttgt caaagaagct tccacaaaat tagaaaggac aacagttctg agctgtaatt 300
 tcgccttaaa ctctggacac tctatatgta gtgcattttt a 341

<210> 221
 <211> 234
 <212> DNA
 <213> Homo sapien

<400> 221
 ccagggggaa ttgaggaggg ctctaagcta ggggcactgc atggtgggac aggatggccc 60
 cttgaggact gaacctgtgg gagaagacaa acagtaataa taaaaacaaa taacaagtac 120
 ttttaagaatg gattgtatga cctatagtga cagatgacat cactaatact gaaagcttct 180
 tatattaata attttggcaa aatgtcattt tgtaatatag tatatgcttt ccag 234

<210> 222
 <211> 186
 <212> DNA
 <213> Homo sapien

<400> 222
 aaattttcat tgagttgtcc atctccagca tatagggtct caggagcaga gcagaccttg 60
 tttttagtgg ttccatggga taaaatggga ttggaggagc tagaagaatt cagggtcttg 120
 tccaatctgc cagtcttctt gaaatatcga aaatacacca gggctgctat atcagagcca 180
 ccttg 186

<210> 223
 <211> 486
 <212> DNA
 <213> Homo sapien

<400> 223
 ccataagcag ataagtagca gttcaactgg atgtctctct tctccaaatg ctacagtaca 60
 aagccctaag catgagtggg aaatcgttgc ttcagaaaag acttcaaata acacttactt 120
 gtgcctggct gtgctggatg gtatattctg tgtcattttt cttcatggga gaaacagccc 180
 acagagctca ccaacaagta ctccaaaact aagtaagagt ttaagctttg agatgcaaca 240
 agatgagcta atcgaaaagc ccatgtctcc tatgcagtac gcacgatctg gtctgggaac 300
 agcagagatg aatggcaaac tcatagctgc aggtggctat aacagagagg aatgtcttcg 360
 aacagtcgaa tgctataatc cacatacaga tcaactgtcc tttcttgctc ccatgagAAC 420
 accaagagcc cgatttcaaa tggctgtact catgggccag ctctatgtgg taggtggatc 480
 aaatgg 486

<210> 224
 <211> 322
 <212> DNA
 <213> Homo sapien

<400> 224
 aaatgttcac tatgtcattt agtgtccaac tttaacggata gggtgactat ctaaataaggc 60
 attttttagtc attaaaaaaa aatctagtc ccaggaggat ccctataact caaaataact 120
 tgtttgtaaa agaaaatttg ttactttacc cattagtaag ttcctgcata ttcattataa 180
 gatggcaaat caaacttttc taggatgaag acagcttatt ttttaagttgt atagtcttag 240
 ttggtttagg gtctcaattt taattaataa aataacttgg ttttatttgc ttgtcctttt 300
 gaattcctgt ttttaataatt tt 322

<210> 225
 <211> 489
 <212> DNA
 <213> Homo sapien

<400> 225
 aaatgttaga ataaaatggc tggcatctaa gcacttttagt aaaagagggtt ttacaaaata 60
 actaaggatt gtagagcttc cttctotttt tttttctttt tctttctttt gttttacatg 120
 aactcaactt attcctaaca tttgtctacc tcaaagaaat ttcaagatta tttagataac 180
 atggatatgt gccaaatcct ttgagctggt aagatgataa tttcctgctt tcctcctaca 240
 tcttctcctc ccaactccctc ctttgggtgtg aatattggct tcccaattaa gacctttttt 300
 ttttttttcc agtttgttt agcttattat aggttttgga ggaactttgc cattttgtaa 360
 tctttcaaat cattcttcac ccttctcac atcagcttcc tgcttttccc agtgttttac 420
 tgtaaatgtg gtagcatatg acaaatcttg agctgacttt cctcttcact gatgtcatct 480
 tgagctctt 489

<210> 226
 <211> 398
 <212> DNA
 <213> Homo sapien

<400> 226
 caagggccca ccgcagagca cacctatgct atggggagcc ctgctggcag ccccgagagc 60
 catgccatgg cctgcaggag ccaggctcct gtgtggatga agtccctctt cctctgtgcc 120
 ttgatccctt gggggtgcct ttggtcatct cttctgtcct ttcctgtctc tgaaatagtc 180
 atcaactccc ttgactctct ctgttcacgt cttctcagtc tgcagagtta acttctgtaa 240
 ggagtttaat ctgggggttc aagaaaacaa gttccttggt aacatagcac tgactttgca 300
 acaatagaaa actaacaat gagcaacaat ataaagagta gaggtagttc tcattgggtg 360
 taacttcaac ccattctgct tgtggttaga atttataa 398

<210> 227
 <211> 535
 <212> DNA
 <213> Homo sapien

<400> 227
 ctgctgcata gaaaatatgc taacatacaa cagtcaagtt taagcctgtg catagagaag 60
 ataaagcaact tatgtaact gcaaattgta acgagtcctt aaggtttgta caacctagta 120
 tgggtccata aggaaaaact gtagtagaaa tggtaggac aaacaataaa gtagaaacag 180
 gggggaaact tgagaagaga agaaagaagc aagaaaaaaa gactttcaat tgtataaaat 240
 tcacaaacca gtaaagtata aagacacccat ggagaaatgg ttaactctgc cccaaacacc 300
 caacagcaaa caaaaccaga atgaataagc ctttggcaga caattttaga aatttgaatg 360
 ttacatttct caataattca caaacaatat attatatgtt atatttatat taaatattgg 420
 gaaaccaatg ttgtaaattt gatgcttata atgcttttagc caatgagagc acaatgatat 480

caatcaagct aatgaatgc tgggtgtatc acaacagtgc tcatttatga acaa 535

<210> 228
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 228
 aaacaataaa caccatcaac cttattgact ttattgtccc tttaaattata ttgactgttg 60
 tgattccatc aagtttgtac actcttttct ctccctgttt tgcagcaaca aattgcgaag 120
 tgcttttgtt tgtttgtttt cgtttggtta aagcttattg ccatgctggt gcggctatgg 180
 agactgtctg gaaggcttgg aatgggtttat tgcttatggt aaaatttgcc tgatttctta 240
 caggcagcgt ttggaaacct tttattatat agttgtttac atacttataa gtctatcatt 300
 t 301

<210> 229
 <211> 420
 <212> DNA
 <213> Homo sapien

<400> 229
 aaagttgctt tgctggaagt ttttataagg aatctcagat taaaccttta gaagtttaat 60
 tgacactagg aagccaaacc aaggetgact tcagactttg tttgtagtac ctgtgggttt 120
 attacctatg ggtttatata ctcaaatacg acattctagt caaagctctg gtaataatac 180
 caatgttttc aaatgtattc tgcatataca agagcagatt tttattgaac ttgtgcaata 240
 actatattac catacaatat aaatattcat gaatagtctt ccaagtctgg agcgaccaca 300
 tagggagaaa atgcaaattgt ctcaattttt gttcacaaaa gtatatatta tcaaattgct 360
 gtaagctgtg gatagcttaa aagaaaaaaa gtttcctgaa atctgggaaa caagacattt 420

<210> 230
 <211> 419
 <212> DNA
 <213> Homo sapien

<400> 230
 gtgaagtcct aaagcttgca ttccaccagc ttctacaata gccggcttat tactagagca 60
 gacagatagc accttcagca ctctgcttgt ggtccacagt agtttttctg aagtataggt 120
 cctcattata ttactataag cttgggggtcc accactagcc agtatgatga gcttgctttc 180
 ttggttgcca taagctaaaaa ttggaaggca gtctgtcgta atagccaaga atttaacatt 240
 tgttttgttg agcaaggcaa ccattttctg cagcccacca gctaaacgca ctgccatttt 300
 agctccttct tgatgtaata aaagggttggt gagagttgta atggcataaa acaacacaga 360
 atccactggt gaaccaagca ttttcaccag ggcaggaatg cctccagact taaagatgg 419

<210> 231
 <211> 389
 <212> DNA
 <213> Homo sapien

<400> 231
 ttgttcagag ccttggtgga tcttgcaatc cagtgcccta caaaggctag aacactacag 60
 gggatgaatt cttcaaatag gagccgatgg atctgtggtc ctttgggact catcaaagcc 120
 ttggttttagc attttgtcag ttttatcttc agaaattctc tgcgattaag aagataattt 180
 attaaagggtg gtccttccta cctctgtggt gtgtgtcgcg cacacagctt agaagtgcta 240
 taaaaaaggga aagagctcca aattgaatca cctttataat ttaccattt ctatacaaca 300
 ggcagtggaa gcagtttcag agaacttttt gcatgcttat ggttgatcag ttaaaaaaga 360
 atgttacagt acaaaataaa gtgcagttt 389

<210> 232

<211> 397
 <212> DNA
 <213> Homo sapien

<400> 232
 ccaggataat atacacaggt ttgcagctaa aactgtgcac agtgggtcat tgatgctagt 60
 cacagtggaa ctgaaggaag gctctacagc ccagcttata ataaacactg agaaaactgt 120
 gattggctct gttctgctgc gggaaactgaa gcctgtcctg tctcaggggt aacctgctta 180
 catctggact ttagaatctg gcacacaaca aaagtgcctg gcattccacta ctgctgcctt 240
 tcatttataa taatagccct tccatctggc agtgggggaa gaatacactc ttgacattct 300
 tgtctcctgc tttagaatgc tagtgtgtat ctatcatgta tgcaataact tccccctttt 360
 tgctttgcta accaaagagc atatatttta ctgtcag 397

<210> 233
 <211> 508
 <212> DNA
 <213> Homo sapien

<400> 233
 cgaggagtgc cttaagtgcg aggacotcaa agtgggacaa tatatttcta aagatccaaa 60
 aataaatgac gctacgcaag aaccagttaa ctgtacaaac tacacagctc atgtttcctg 120
 ttttccagca cccaacataa cttgtaagga ttccagtggc aatgaaacac attttactgg 180
 gaacgaagtt ggttttttca agcccatatc ttgccgaaat gtaaatggct attcctacaa 240
 agtggcagtc gcattgtctc tttttcttgg atggttggga gcagatcgat tttaccttgg 300
 ataccctgct ttgggtttgt taaagttttg cactgtaggg ttttgtggaa ttgggagcct 360
 aattgatttc attcttattt caatgcagat tgttggacct tcagatggaa gtagttacat 420
 tatagattac tatggaacca gacttacaag actgagtatt actaatgaaa catttagaaa 480
 aacgcaatta tatccataaa tatttttt 508

<210> 234
 <211> 358
 <212> DNA
 <213> Homo sapien

<400> 234
 aaatgttggg attcaaaacc aaagatataa ccgaaaggaa aaacagatga gacataaaat 60
 gatttgcaag atgggaaata tagtagttta tgaatgtaaa ttaaattcca gttataatag 120
 tggctacaca ctctcactac acacacagac cccacagtcc tatatgccac aaacacattt 180
 ccataacttg aaaaatgagta ttttgcataat ctcagttcag gatattgttt ttacaagtta 240
 atcctaaagt cataaagcaa gaagctattc atagtacaag attttatttg ctaagcttta 300
 caaattaaac tctaaaaaat tattacaatg atactgaaag atattttatt ggcctttt 358

<210> 235
 <211> 482
 <212> DNA
 <213> Homo sapien

<400> 235
 gaagaaagtt agatttacgc cgatgaatat gatagtgaag tggatttttg cgtaggtttg 60
 gtctaggggt tagcctgaga ataggggaaa tcagtgaatg aagcctccta tgatggcaaa 120
 tacagctcct attgatagga catagtggaa gtgagctaca acgtagtacg tgcgtgttag 180
 tacgatgtct agtgatgagt ttgctaatac aatgccagtc aggccaccta cggtgaaaag 240
 aaagatgaat cctagggtgc agagcactgc agcagatcat ttcattattg ttccgtggag 300
 tgtggcgagt cagctaaata ctttgacgcc ggtggggata gcgatgatta tggtagcgga 360
 ggtgaaatat gctcgtgtgt ctacgtctat toctactgta aatatatggt gtgctcacac 420
 gataaaccct aggaagccaa ttgatatcat agctcagacc atacctatgt atccaaatgg 480
 tt 482

<210> 236
 <211> 149
 <212> DNA
 <213> Homo sapien

<400> 236
 cctcttcatt gttcacatgt cacaggagga ggctctgagc aaaggccact ggcaagttag 60
 ggcaacacca agaaggctct gcggagagac tccctgtggg ttggggcctg gcaggaacgg 120
 tgcctgtgga ctgtttatgg tctgtccag 149

<210> 237
 <211> 391
 <212> DNA
 <213> Homo sapien

<400> 237
 gaagctaaat ccaaagaaat atgaagggtgg ccgtgaatta agtgatttta ttagctatct 60
 acaaagagaa gctacaaacc cccctgtaat tcaagaagaa aaacccaaga agaagaagaa 120
 ggcacaggag gatctctaaa gcagtagcca aacaccactt tgtaaaagga ctcttccatc 180
 agagatggga aaaccattgg ggaggactag gacccatatt ggaattatta cctctcaggg 240
 ccgagaggac agaattggata taatctgaat cctgttaaat tttctctaaa ctgtttctta 300
 gctgcactgt ttatggaaat accaggacca gtttatgttt gtggtttttg gaaaaattat 360
 ttgtgttggg ggaaatgttg tgggggtggg g 391

<210> 238
 <211> 374
 <212> DNA
 <213> Homo sapien

<400> 238
 aaaaaacaaa acaatgtaag taaaggatat ttctgaatct taaaattcat cccatgtgtg 60
 atcataaact cataaaaaata attttaagat gccggaaaag gatactttga ttaaataaaa 120
 acactcatgg atatgtaaaa actgtcaaga ttaaaattta atagtttcat ttatttgta 180
 ttttatttgt aagaaatagt gatgaacaaa gatccttttt catactgata cctggttgta 240
 tattatttga tgcaacagtt ttctgaaatg atatttcaaa ttgcatcaag aaattaaaat 300
 catctatctg agtagtcaaa atacaagtaa aggagagcaa ataaacaaca tttggaaaaa 360
 aaaaaaaaaa aaaa 374

<210> 239
 <211> 200
 <212> DNA
 <213> Homo sapien

<400> 239
 aaagatgtct ttgaccgcat atgtactgga aatttcaaac gtggatcttc ccaggttgta 60
 gtcttttgtt tatgatcaat gaagaagggc cggccgtttg gcgctatcct catttcccag 120
 ccgggtggca agaagctctg tgtgactttg tgttggtggt ttggggagtt gtaagtgat 180
 ggctgtgggg actgtgggtt 200

<210> 240
 <211> 314
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(314)
 <223> n = A,T,C or G

<400> 240
 ctggtaaact gtccaaaaca aggttccaaa taacacctct tactgattta ccctacccat 60
 acatatncca natagntttt gatcaaaaac atgaaatana tccacctgct tattttaagc 120
 atattaaaaa ggaaactaat tggaccattt tctatttgtc tattttatac aaaaaggcta 180
 cacaattgat acactctatt cagataacaa tcaattagag tgantatgaa ttactggcga 240
 caccatcact caattcttaa aaattagaaa ttgctgtagc agtattcact ataacttaac 300
 actaccgaga gact 314

<210> 241
 <211> 375
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(375)
 <223> n = A,T,C or G

<400> 241
 ccaagtcctt ggagttatag gatattcatt acttcctctc attgtaatag ccctgtact 60
 tttggtggtt ggatcatttg aagtgggtgc tacacttata aaactgtttg gtgtgttttg 120
 ggctgcctac agtgcctgctt cattgttagt gggagaagaa ttcaagacca aaaagcctct 180
 tctgatttat ccaatctttt tattatacat ttatcttttg tctgttatata ctggtgtgtg 240
 atccaagtta tacatgaata gaaaaagatg gtgttaaatt tgtgtgtagg ctgggaattc 300
 tngctaaagg aatggnaaaa aacctgtntt tgnaaaattn acntgtccca aagnnaagga 360
 anctaaacgc ttttt 375

<210> 242
 <211> 387
 <212> DNA
 <213> Homo sapien

<400> 242
 aaaggcattc tctgatttac atgagaattg agaaactgag atgtatgatt tgtctgttag 60
 tcaatttcac accctttcat tctcataagc cccaaatttt gctcagttta ggagcttgct 120
 ttaggccac ctatgtaagt ctgttatact agctaattgtg cccatttgaa tagttcaagg 180
 gtcagctaata gctctgagct tcatggctcc agtataaaga acaaatttaa caaaattaag 240
 ctgttactgt agccgagttt cccttctgct ccacacatat gtagtgggat ctgacaggat 300
 ttccatagtg ccaattatca aaggccttga ctacttagca ttgctgtatt acagatgtgc 360
 aaactgagcg actgaaaagt caaattt 387

<210> 243
 <211> 536
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(536)
 <223> n = A,T,C or G

<400> 243
 aaacccaaaag gacgaagaaa aaacactttt aaaaaaaaaa aaaaaaaga aaaaccaaac 60
 catattttgc cacatgtgag agtacgggtca agcagtattt acaaaaagggt taacggaaca 120
 acactctgac acatgctctg agaatactgg gactgctgtt tcaaaaaaaa aggttcaaac 180
 ttattgtcac agcatcatca caaaatagag gatcaccatt ggtttgcttg gcttttcttt 240
 ttttttttcc cccaagtgag gacctaactc caaataatac aatagaatat gcaaattatc 300

```

ttcacatcaa gagtacccca agaaaaacga aatccatggc acanacactg tacaagggtg 360
cagggcaggg ctctgagggg cccaaacccc attttgccaa ctcgattttc tagcattgaa 420
gggagcaagg ggtcaggcat atgatggaga tgatactgaa atgatttate caaaatccat 480
gcaaatacaag ttctttggat agagggtgaan aacttgga ca tggctgtttc aggca g 536

```

<210> 244

<211> 397

<212> DNA

<213> Homo sapien

<400> 244

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ccaggataat atacacaggt ttgcagctaa aactgtgcac agtgggtcat tgatgctagt 60
cacagtggaa ctgaagggaag gctctacagc ccagcttate ataaacactg agaaaactgt 120
gattggctct gttctgctgc gggaactgaa gcctgtcctg tctcaggggt aacctgctta 180
catctggact ttagaatctg gcacacaaca aaagtgcctg gcattccacta ctgtgcctt 240
tcatttataa taatagccct tccatctggc agtgggggaa gaatacactc ttgacattct 300
tgtctcctgc tttagaatgc tagtgtgtat ctatcatgta tgcaataactt tccccctttt 360
tgctttgcta accaaagagc atatatttta ctgtcag 397

```

<210> 245

<211> 508

<212> DNA

<213> Homo sapien

<400> 245

```

cgaggagtgc cttaagtgcg aggacctcaa agtgggacaa tatatttgta aagatccaaa 60
aataaatgac gctacgcaag aaccagttaa ctgtacaaac tacacagctc atgtttcctg 120
ttttccagca cccaacataa cttgtaagga ttccagtggc aatgaaacac attttactgg 180
gaacgaagtt ggttttttca agcccatatc ttgccgaaat gtaaattggc attcctacaa 240
agtggcagtc gcattgtctc tttttcttgg atggttggga gcagatcgat tttaccttgg 300
ataccctgct ttgggtttgt taaagttttg cactgtaggg ttttgtggaa ttgggagcct 360
aattgatttc attcttattt caatgcagat tgttggacct tcagatggaa gtagttacat 420
tatagattac tatggaaaca gacttacaag actgagtatt actaatgaaa catttagaaa 480
aacgcaatta tatccataaa tattttttt 508

```

<210> 246

<211> 358

<212> DNA

<213> Homo sapien

<400> 246

```

aaatgttggg attcaaaacc aaagatatata ccgaaaggaa aaacagatga gacataaaat 60
gatttgcaag atgggaaata tagtagttta tgaatgtaaa ttaaattcca gttataaatag 120
tggtacaca ctctcactac acacacagac cccacagtcc tatatgccac aaacacattt 180
ccataacttg aaaatgagta ttttgcataat ctgagttcag gatattgttt ttacaagtta 240
atcctaaagt cataaagcaa gaagctattc atagtacaag attttatttg ctaagcttta 300
caaattaaac tctaaaaaat tattacaatg atactgaaag atattttatt ggcctttt 358

```

<210> 247

<211> 673

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(673)

<223> n = A,T,C or G

<400> 247

gaagaaagtt	agattttacgc	cgatgaatat	gatagtgaaa	tggatttttg	cgtaggtttg	60
gtctagggtg	tagcctgaga	ataggggaaa	tcagtgaatg	aagcctccta	tgatggcaaa	120
tacagctcct	attgatagga	catagtggaa	gtgagctaca	acgtagtacg	tgtcgtgtag	180
tacgatgtct	agtgatgagt	ttgctaatac	aatgccagtc	aggccaccta	cggtgaaaag	240
aaagatgaat	cctagggctc	agagcactgc	agcagatcat	ttcatattgc	ttccgtggag	300
tgtggcgagt	cagctaaata	ctttgacgcc	ggtggggata	gcgatgatta	tggtagcgga	360
ggtgaaatat	gctcgtgtgt	ctacgtctat	tcctactgta	aatatatggt	gtgctcacac	420
gataaacctt	aggaagccaa	ttgatatcat	agctcagacc	atacctatgt	atccaaatgg	480
ttcttttttt	cgggagtagt	aagttacaat	atgggagatt	attccgaagc	ctggtaggat	540
aagaatataa	acttcagggt	gaccgaaaaa	tcagaatagg	tgttggtata	gaatggggtc	600
tcctnctccg	cggggctnaa	gaaggtggtg	ttgangttgc	cggnctgtta	ntagtatagn	660
gatgccanca	gct					673

<210> 248

<211> 149

<212> DNA

<213> Homo sapien

<400> 248

cctcttcatt	gttcacatgt	cacaggagga	ggctctgagc	aaaggccact	ggcaagttag	60
ggcaacacca	agaaggctct	gcggagagac	tcctctgtgg	ttggggcctg	gcaggaaacgg	120
tgctgttgga	ctgtttatgg	tctgtccag				149

<210> 249

<211> 458

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(458)

<223> n = A,T,C or G

<400> 249

gaagctaaat	ccaaagaaat	atgaagggtg	ccgtgaatta	agtgatttta	ttagctatct	60
acaaagagaa	gtacaaaacc	cccctgtaat	tcaagaagaa	aaaccaaga	agaagaagaa	120
ggcacaggag	gatctctaaa	gcagtagcca	aacaccactt	tgtaaaagga	ctcttccatc	180
agagatggga	aaaccattgg	ggaggactag	gaccatattg	ggaattatta	cctctcaggg	240
ccgagaggac	agaatggata	taatctgaat	cctgttaaat	tttctctaaa	ctgtttctta	300
gctgcactgt	ttatggaaat	accaggacca	gtttatgttt	gtggtttttg	gaaaaattat	360
ttgtgttggg	ggaaatgttg	tgggggtggg	gttgagttgg	gggtattttc	taattttttt	420
tgtacatttg	gaacagtgac	aataaatgan	accccttt			458

<210> 250

<211> 374

<212> DNA

<213> Homo sapien

<400> 250

aaaaaacaaa	acaatgtaag	taaaggatat	ttctgaatct	taaaattcat	cccatgtgtg	60
atcataaaact	cataaaaaata	attttaagat	gcgggaaaag	gatactttga	ttaaataaaa	120
acactcatgg	atatgtaaaa	actgtcaaga	ttaaaattta	atagtttcat	ttattttgta	180
ttttatttgt	aagaaatagt	gatgaacaaa	gacccctttt	catactgata	cctgggttgta	240
tattatttga	tgcaacagtt	ttctgaaatg	atatttcaaa	ttgcatcaag	aaattaaaaat	300
catctatctg	agtagtcaaa	atacaagtaa	aggagagcaa	ataaacaaca	tttggaaaaa	360
aaaaaaaaaa	aaaa					374

<210> 251
 <211> 356
 <212> DNA
 <213> Homo sapien

<400> 251
 aaagatcttc tctaacaagc tatgggaatt tggtctcata ctctttcttt gcaacagcag 60
 tgttctgggt gataattttg aattgatacc tggtcctttt tctgggtttt gttggctttt 120
 tgaaaaattg tctttcctta tcattggttg gaggcctggg agcaaaagtaa catTTTTTtg 180
 aaaagaggac agaaaaattg aactacagct tgagaacgta ttcttttttt cctactttgt 240
 tattgcaaat tgaggaaatca cttttaactg ttttaggtgt gtgtgtccag agtgagcaag 300
 gattatgttt ttggattgtc aaagaggatg cttagtctta aaataaaaat aaattt 356

<210> 252
 <211> 484
 <212> DNA
 <213> Homo sapien

<400> 252
 ctggtaaaact gtccaaaaca aggttccaaa taacacctct tactgattta ccctacccat 60
 acatatccca aatagtTTTT gatcaaaaac atgaaataga tccacctgct tattttaagc 120
 atattaaaaa ggaaactaat tggaccattt tctatttgtc tattttatac aaaaaggcta 180
 cacaattgtt acactttatt cagattacaa ttaattagag tgattatgaa ttagtggtct 240
 acaccattac tcaattctta aaaattagaa attgctgtag cagtattcac tataacttaa 300
 cactacgaga gacttaaaaa acagttactg caaaaaaaaa aaagagctac ttcaaagcaa 360
 gcaaagtcag taccattaca gatattctta aaaaaaaaaa aaaatttaac aagcaaggct 420
 agggtttgat aaattccatc ttgtgatcca ttcttgtaga ttcttcactt cttgagtcac 480
 tccc 484

<210> 253
 <211> 379
 <212> DNA
 <213> Homo sapien

<400> 253
 aaaaagcgct tagacttccc ttcccatctg gaacatgtaa aattttgcag caacaggttt 60
 tctccaattc cttcagcaag aattcccagc ctacacacaa atttaacacc atctttttct 120
 attcatgtat aacttggatc acacaccagt atataacgac aaaagataaa tgtataataa 180
 aaagattgga taaatcagaa gaggcTTTTT ggtcttgaat tcttcaccca ctaacaatga 240
 agcagcactg taggcagccc aaaaacacacc aaacagtttt ataagtgtag acaccacttc 300
 aaatgatcca accaccaaaa gtacaggggc tattacaatg agaggaagta atgaatatcc 360
 tataactcca aggacttgg 379

<210> 254
 <211> 387
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(387)
 <223> n = A,T,C or G

<400> 254
 aaatttgact tttcagtgc tcagtttgca catctgtaat acagcaatgc taagtagtca 60
 aggccnttga taattggcac tatggaaatc ctgcaagatc ccactacata tgtgtggagc 120
 agaagggtaa ctcggtctaca gtaacagctt aattttgtta aatttgttct ttatactgga 180
 gccatgaagc tcagagcatt agctgaccct tgaactattc aaatgggcac attagctagt 240

ataacagact	tacataggtg	ggcctaaagc	aagctcctta	actgagcaaa	atttggggct	300
tatgagaatg	aaagggtgtg	aaattgacta	acagacaaat	catacatctc	agtttctcaa	360
ttctcatgta	aatcagagaa	tgccctt				387

<210> 255
 <211> 225
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(225)
 <223> n = A,T,C or G

<400> 255						
aaatgtcttg	tttccagat	ttcaggaaan	tttttttctt	ttaagctatc	cacagcttac	60
agcacctttg	ataaaatata	cttttgtgaa	caaaaattga	gacatttaca	ttttctccct	120
atgtggtcgc	tccagacttg	ggaaactatt	catgaatatt	tatattgtat	ggtaatatag	180
ttattgcaca	agttcaataa	aaatctgctc	tttgatgac	agaat		225

<210> 256
 <211> 544
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(544)
 <223> n = A,T,C or G

<400> 256						
ccttgcttaa	agcccagaag	tggttttaggc	ntttggaaaa	tctggttcac	atcataaaga	60
acttgatttg	aaatgttttc	tatagaaaca	agtgcctaagt	gtaccgtatt	atacttgatg	120
ttggtcattt	ctcagtccta	tttctcagtt	ctattatttt	agaacctagt	cagttcttta	180
agattataac	tggtcctaca	ttaaaataat	gcttctcgat	gtcagatfff	acctgtttgc	240
tgctgagaac	atctctgcct	aattttacaa	agccagacct	tcagttcaac	atgcttcctt	300
agcttttcat	agttgtctga	catttccatg	aaaacaaagg	aaccaacttt	gttttaacca	360
aactttgttt	ggttacagtt	ttcaggggag	cgtttcttcc	atgacacaca	gcaacatccc	420
aaagaaataa	acaagtgtga	caanaaaaaa	aacaaaccta	aatgctactg	ttccaaagag	480
caacttgatg	gtttttttta	atactgagtg	caaaaggnc	cccaaattcc	tatgatgaaa	540
tttt						544

<210> 257
 <211> 420
 <212> DNA
 <213> Homo sapien

<400> 257						
aaatgtcttg	tttccagat	ttcaggaaac	tttttttctt	ttaagctatc	cacagcttac	60
agcaatttga	taaaatatac	ttttgtgaac	aaaaattgag	acatttacat	tttctcccta	120
tgtggtcgct	ccagacttgg	gaaactattc	atgaatattt	atattgtatg	gtaatatagt	180
tattgcacaa	gttcaataaa	aatctgctct	ttgtatgaca	gaatacattt	gaaaacattg	240
gttatattac	caagactttg	actagaatgt	cgtattttgag	gatataaacc	cataggtaat	300
aaaccacag	gtactacaaa	caaagtctga	agtcagcctt	ggtttggctt	cctagtgtca	360
attaaacttc	taaaagttaa	atctgagatt	ccttataaaa	acttcagca	aagcaacttt	420

<210> 258
 <211> 736

<212> DNA

<213> Homo sapien

<400> 258

aaacaaaatg	ctaaacctaa	aaacattggt	ctgtcagttc	ccaaattaaa	tctacttaga	60
acaaaaacaa	aaatttatag	ctcggtcaca	tactacttaa	ataatattgt	tcaggcatct	120
ctaaaatcct	ccatgttttc	aagtatggaa	atagaactca	aattattccac	aatacagtac	180
taaacagatg	gagtatttag	gaaagacttt	gttgtcatat	ggcacaatat	taatattttg	240
ttgcttcaat	acgttttgaa	ataaatatca	gatttttggt	tttttttcct	aaaagaccaa	300
aattataatc	tacattaaga	taattctgac	tgtgggttaag	acttaagagt	gtaaaataca	360
acatcaatat	tttatcacia	aagtaaagct	ggtaacaaat	tataaaagga	gccagtactc	420
tactgagaca	ggctcggaga	ttaaagctca	tcatgataga	aatagtcata	atggagctgt	480
ctgccataat	ctgtggcttc	actgggtgaga	aacaagtcog	ggttttccag	aatctottct	540
tcagagagct	ttttgtcacc	attcaaattcc	atttcatcaa	ttagatgaag	cgcctcctct	600
tgtgcaatgc	cctgattatt	aggtctaccc	aaggtaacag	ctcttgggga	tcaagcctgc	660
catcgttatc	tttgtcataa	tcattcaccg	aatctgtctt	tctcacaagt	atcccattct	720
ggatcttcat	ttgcag					736

<210> 259

<211> 437

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(437)

<223> n = A,T,C or G

<400> 259

aaaaccatac	tgaaatcatt	taccaaatata	cnaagatctt	aatctaaaag	atagtgaata	60
catcatcctc	atgaaatctg	gttttatgtg	ctctatgaag	tacttgagga	attgcttttt	120
tatttttctt	ttgctttatt	aggtcacaca	aaacagaaat	aattagcaga	aaaatgtatg	180
ttataaaaca	gcatttacta	cttcaattta	atttttttta	ctaacaattg	tggacctttt	240
tgatgacact	tatgtatgtt	tttaataaat	tatgtactta	ttagtactta	atgagccctt	300
cctgcctcaa	tataaaatta	ctaaacttgg	agaattacag	attttattgt	aggccctgat	360
gttagtcact	ttggagaagc	taaaaatttg	gaaatgatgt	aattcccact	gtaatagcat	420
agggattttg	gaagcag					437

<210> 260

<211> 592

<212> DNA

<213> Homo sapien

<400> 260

tttttttttt	gaaaaatata	aaattttta	aaagggtaca	tctcttaatt	acaataatta	60
ttgtaccaag	taattttcct	taaatgaact	ctttataatg	cataattttac	agtataagta	120
gaacaaaatg	tcatgacaaa	agtcattgag	tacaagactt	gtaataaaaa	ggcataaaat	180
atattttatac	ataaaacccct	ttcaaaaaac	aagggaaagc	ttgagccctc	aatatagggc	240
gacacacgga	gcggttgacc	gtgcagggtac	aggtactgta	ctgattttaa	gtcaagcact	300
agagatagtg	gattaatact	cttttgccgt	acactatata	cagatgtata	gtacaagtaa	360
caatggcaaa	cagaatgtac	agatttaactt	aacacaaaaa	cccgaacatc	aaaatgaagg	420
tgtgtggagg	aaaggtgctg	ctgggtctcc	ctacaactgt	tcatttcttt	gtggggcagg	480
gggtagtctc	tgaatggctg	tgtccaatg	actaatgtaa	aacaaaaaca	gaaacaaaaa	540
aaacaaggaa	ctgtcatttc	cacgaaagca	cagcggcagt	gattctagca	gg	592

<210> 261

<211> 450

<212> DNA

<213> Homo sapien

<400> 261

gtggcagggc ccagccccga accagacaag ggacccctca aggagcttca ttctagcatg	60
agaaaattga gaagtaaacc agaaagttac agaatgtctg aaggggacag tgtgggagaa	120
tccgtccatg ggaaaccttc ggtgggtgtac agatttttca caagacttgg acagatttat	180
cagtcttggc tagacaagtc cacaccctac acggctgtgc gatgggtcgt gacactgggc	240
ctgagctttg tctacatgat tcgagtttac ctgctgcagg gttggtacat tgtgacctat	300
gccttgggga tctaccatct aaatcttttc atagcttttc tttctccaa agtggatcct	360
tccttaatgg aagaactcaga tgacggtcct tcgctaccca ccaaacagaa cgaggaattc	420
cgcccttca ttcgaaggct cccagagttt	450

<210> 262

<211> 239

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(239)

<223> n = A,T,C or G

<400> 262

taactttgat gacaaaatct aaaattaaag anttagtctt aaaagcctat agtgacttgt	60
ttacttgcac aaataatatt ttcacttagt acaggctatt aataataagta atgagaattt	120
aagtattaac tcaaaaaaag atagaggctc caaacttttc taagaaatta atgcattttc	180
aaagtaataa tataatcaat ctgtaagtca aaagtaattt catattcatt gccaaattt	239

<210> 263

<211> 376

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(376)

<223> n = A,T,C or G

<400> 263

aaaaaaaaa aaaaaaaatt ctttgtngtt tnttagagga aaaaaagaaa aaccccaact	60
tttancactg atactacata ttgctctgtt aaagaatttt ctctgccaaa aaaaagaaaa	120
aacaaaaaaa cgcttaaagc tggagtttga cattctgctt tcagatgctg tctttttatt	180
agtgagtgat gatgggttgc taataatcaa taggtaataa ttttttgtaa tcccatcaag	240
tggctccata tgtttctgct ctctcgtgac tgtgttaatg ttttaactgt gtaccttaaa	300
gccgaaatca gtaactatgc atactgtaac caaggatttg ggcttacaga gttgtttgtt	360
gnataaagaa aattttt	376

<210> 264

<211> 207

<212> DNA

<213> Homo sapien

<400> 264

aaattagcat tcacaaata tacaggtaat ttaataatta ttgtgcatga atacatacac	60
aatgcttata tatacaaatt ccagtttgtt ttcattgtgt ggcaagggat ttgtatacaa	120
tcataagctg tgttcatatt ggtcccattg aatattcaca atacaaaagc acaaaagAAC	180
cattgattta caaaaggaaa tctattt	207

<210> 265
 <211> 388
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(388)
 <223> n = A,T,C or G

<400> 265
 naactgcact ttatttggta ctgtaacatt nttttttaac tgatcaacca taagcatgca 60
 aaagncnct gaaactgctt ccactgcctg ttgtatagaa atgggtaaat tataaagggtg 120
 attcaatttg gagtccttc cttttttata gcacttctaa gctgtgtgcg cgacacacac 180
 cacagaggta ggaaggacca cctttaataa attatcttct taatcgcaga gaatttctga 240
 agataaaact gacaaaatgc taaaccaagg ctttgatgag tcccaaagga ccacagatcc 300
 atcggtcctt atttgaagaa ttcacccctt gtagtggttct agcctttgta gggcactgga 360
 ttacaagatc caccagggtc ctgaacaa 388

<210> 266
 <211> 616
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(616)
 <223> n = A,T,C or G

<400> 266
 aaatacagag tcaaagatg atttataaaa tntaaaacat tttctgcttg gcogtatttg 60
 aagacaagct gaatacatat ctatgttctg aataagtcca ctatggatat atataaggaag 120
 agatatacat atatccatcc acagatacac acacacatat atatttctgc atgtatatat 180
 acataattct ttctatagtt acaggaaata cttcttctat aattctgatt ttgactccca 240
 tctccacca ttactcatc cactcattac cttaaacttg gctttcttct ctatattgta 300
 aataatccat ccaaacttct agccagtact gtcaggaggg ttcttgctcg agtgagctgt 360
 taatactatt ttccactgac aacttctgca catcgaggac acagtgtatc tgaagactcc 420
 gctgtatact tccaacaacg ggggcatttt ttttctgtag tcggcatgac aattacttta 480
 taggaagact cttcacgaat atcaccacct tctaagttga tgaggaattt ccctttaagc 540
 tcgattacat ctgcagtcac ctctcgtggt tcctgaccag taaagttgac tcagaagcca 600
 tcattaattc attcaa 616

<210> 267
 <211> 341
 <212> DNA
 <213> Homo sapien

<400> 267
 ccattatgta tgtattttct tgaaaaatac ttatttcagc tacttatttt taatagttac 60
 ttattcttgt tgtattgtca tttagatttt gtatatattt ttgatattaa ccccttgta 120
 catgtataat ttgcaaatat tttctccctt tttttagttg tcacattctg ttcattgtat 180
 cagattctgt gcagcagctt tttaatttga agtgatctga ctgacttggt ctctcttttg 240
 tgtcctggga tatttaggtt aaatcaaaaa acttgctgcc cagaccaatg ttatggggct 300
 ttcactctat tttttggtag tagtagttta agagttttag g 341

<210> 268
 <211> 367
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(367)

<223> n = A,T,C or G

<400> 268

ttgtagattg gaatagcaaa agtgaatgct ntgacaaaaa tttttgcctt cctaaataaa	60
gacgtntcct tctagagagc aaatctatca taaaatgtca aaactagaag agaataaaat	120
gaaaggaaaa aacctagaaa aatatcctaa aatatcaaag gcagtcattt ctaaataataa	180
gccataatta tagctttacc tattgttctt attgttccta tgctgcttct acaatgttac	240
atcaactata cttagcttta ctctcccaaa atcttggtga tgaagccttc tgagtgtgct	300
ttccaatgtg ccagaaccag aagggcattc caaggcttcc ccacatttcc tccatttacg	360
gagacag	367

<210> 269

<211> 270

<212> DNA

<213> Homo sapien.

<220>

<221> misc_feature

<222> (1)...(270)

<223> n = A,T,C or G

<400> 269

caaattcttc cctcactaga cgtaagcent ttntcactc tctcaatctt atgcatcata	60
gnaangcngn tgaggtagat taaaccaaac ccagctacgc aaaatcttag catactcttc	120
aattaccac ataggatgaa taatagcagt tctaccgtac aaccctaaca taaccattct	180
taatttaact atttatatta tcctaactac tacogcatcc ctactactca acttaaaact	240
cagcaccacg accctaactac tatntcgac	270

<210> 270

<211> 368

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(368)

<223> n = A,T,C or G

<400> 270

ctgaatcatg aataacacta tataatagag tntaaggaac acaagcatta gatgtgatcc	60
ttgccccata cccttagatt atgtcagact aaagctgaca attctgccag gctctgaacc	120
cctagtgcgc ccaacccaaa tcttggaagc aaagaatatg ccctgtcata caactttgta	180
caagttgtag taaaaaaaag cttaagtttt ctcatctttc tacagcaaat ggtcagttat	240
ttaataaaca ctaaaatgct cctaagaatc ctttttgagt ttgtttacca aacacattgt	300
gcaagaactg actacacaaa aagttccttt gaaatttggt gcacaaattc acttaagggt	360
ggaaattt	368

<210> 271

<211> 313

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(313)
 <223> n = A,T,C or G

<400> 271
 aaatttatat aaaactctgt acatgttcac tttattattg cataaacagc ataattcttca 60
 agacaanngt ttgcaaacac atgtccaatt caggaaaaaa aatttcacgt ttctcgtctg 120
 gcttttttct tcttttttat ttgtttggga gattcccagc tagtttcaga cttggtctgt 180
 gaaggaggca cactattttg cttggtattt gacttggatt tatctgtctc ttgtagtatt 240
 ggcggcactt gggaagagct cttgtcagaa tcactttttg ataagattac agatggctcg 300
 gtagaagtag cag 313

<210> 272
 <211> 462
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(462)
 <223> n = A,T,C or G

<400> 272
 aaaaaacatt tattttaata agactattgc naacacatta aaaaaactaa atagtaatat 60
 tacaaaatct atatacttgc acatttagta tttgtcaatg tgccagaggt tttcttcatg 120
 aaatttgact tctttgaagt gaaggctttt ttctatcatc tcttatagct ctgactgaat 180
 aagtcttaat gctttcttca tgttttctat caataggggt aatcccgag gctcatatgt 240
 gtacaatctg ttagagtatc ttccagctat gtcagctcta actgttaaag aaggggtctac 300
 aaacatgatt ctaggcacat attgcccac aggtgataaa ttcttatcag tggtttcatg 360
 cataagggtt agcatgatga acttattctg agccatttct tgtatttctt cattttgggc 420
 aaatacttct tttagtgtt gagagtattg acaatcctcc ag 462

<210> 273
 <211> 282
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(282)
 <223> n = A,T,C or G

<400> 273
 ctgatcaaag catgggatat tttaatagtn ttatacataa tatttttaca tagaaaactt 60
 tacatnncat ttcattatata ataattctgc ttattcttct aaaaatttat acatccattg 120
 ggcaagggaat ggttttcatt aaattaccaa tattaatgc acttaatcat tgtgtatagg 180
 ttaaaccaaa gtaactatta actaactttt aggcatttta aggaggtaaa acatacattt 240
 tacacataag tatttgatgc aaatatgcag ataaaatttt tt 282

<210> 274
 <211> 125
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(125)
 <223> n = A,T,C or G

<400> 274
 cagccctaga cctcaactac ctaaccaach ttnccttaaaa taaaatcccc actatgcaca 60
 ttnaatcnct ccaacatact cggattctac cctagcatca cacaccgcac aatccocctat 120
 ctagg 125

<210> 275
 <211> 528
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(528)
 <223> n = A,T,C or G

<400> 275
 aaagctgtgg aaaagcttta ttatagattt ttntacagaa ttaaaaaagt tcaaacaata 60
 ataagccnng aaccacaaat aattaaaagg aaacacagca atcccataaa caagcattct 120
 ggcattctgt agaaattttc cctcaaatta tgaaatgtag ctctccatgc tttccaatga 180
 ttgttataat acccacaat atctgtgatt tcagtggaa actttaacaa aagttttctt 240
 ttttaaggcat gatcctgatt catTTTTTct tcaatatctc agtcatttca ggaactacct 300
 taaataaatc tgcaactatt ccataatctg ccacttggaa aattggagct tctgggtctt 360
 tattaattgc cacaattgtc ttgctgtctt tcatccagc taaatgttgg atggctccag 420
 atattccaac agcaatataa agttctggtg ctactatttt tcccgctctg ccaacttgca 480
 tgtcattggg aacaaagcca gcatcaacag cagcacggga agcaccaa 528

<210> 276
 <211> 420
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(420)
 <223> n = A,T,C or G

<400> 276
 aaatgtcttg tttccagat ttcaggaaan tttttttctt ttaagctatc cacagcttac 60
 agaaacctga taaaatatac ttttgtgaac aaaaattgag acattttacat tttctoccta 120
 tgttggtcgt ccagacttgg gaaactattc atgaatattt atattgtatg gtaatatagt 180
 tattgcacaa gttcaataaa aatctgctct ttgtatgaca gaatacattt gaaaacattg 240
 gttatattac caagactttg actagaatgt cgtatttgag gatataaacc cataggtaat 300
 aaaccacag gtactacaaa caaagtctga agtcagcctt ggtttggtt cctagtgtca 360
 attaaacttc taaaagttta atctgagatt ccttataaaa acttccagca aagcaacttt 420

<210> 277
 <211> 668
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(668)
 <223> n = A,T,C or G

<400> 277
 ccagggtggc tctgatatag cagccctggg ntattttcga tatttcagga agactggcag 60


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atngcaccag accctgaatt cttctagctc ctccaatccc attttatccc atggaaccac 120
taaaaaaag gtctgctctg ctccgaagc cctatatgct ggagatggac aactcaatga 180
aaattttaaag ggaaaaccct caggcctgag gtgtgtgcca ctgagagact tcacctaaact 240
agagacaggc aaactgcaaa ccatgggtgag aaattgacga cttcacacta tggacagcctt 300
ttcccaagat gtcaaaaacaa gactcctcat catgataagg ctcttaccoc cttttaattt 360
gtccttgctt atgcctgcct ctttcgcttg gcaggatgat gctgtcatta gtatttcaca 420
agaagtagct tcagagggtta acttaacaga gtatcagatc tatcttgta atcccaacgt 480
tttacataaa ataagagatc ctttagtgca cccagtgaact gacattagca gcatctttaa 540
cacagccgtg tgttcaaattg tacagnngtc cttttcagag ttggacttct agactcacct 600
gttctcactc cctgttttaa ttcaaccag ccatgcaatg ccaaataata gaaattgctc 660
cctaccag 668

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<210> 278
<211> 202
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(202)
<223> n = A,T,C or G

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<400> 278
aaattggtat cgacggcaac caggggaagn tnctaaactc ctaatctatt ctggatccaa 60
ttngcnaagt ggggtcccat caagggttcag tggcagtgga tctgggacag atttcactct 120
cacgatcagc agtctgcaac ccgaagattt tgcaacttac tactgtcaac agagttacat 180
gtccccgtac acttttggac cc 202

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<210> 279
<211> 694
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(694)
<223> n = A,T,C or G

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<400> 279
ctgtacttggt acaaaaataag ttaattctat ttggttgctc attaaagttt tatgtggcta 60
tgnaccact ggagctaaaa attggctttt aactgtttcc aaatcagaac tagcagagga 120
gagaagtaaa taaagccaat ggcaactccct tcagaggctc aaaatgggta gattttgatg 180
cagatttaac cttagcgagt ttcagtcagt ccatttagat gatcctgtag gttcatacaa 240
atacactgaa ccgttggttt aacttctctt ccttctctca agtttatgat aaagagactc 300
atccctgtat tgggagtgac tgacataagt tcagatctgc tcagagtggc tggtaaggaa 360
cacttaagggt cagtcagaaa ataatcaaac agacttctca tgtaagcacc gtgactcaca 420
actaagacac tggctgctaa tcctggaata ccgctgtctg aattaacttt agagctgtga 480
ttttttccta aaggaaatat ctctgcaaaa gaagtttcca gacagntgct tgggagatcc 540
ttggggaaaa ctggtctttt tgatccggtt ctttcangan taggtngaca aaagaaatnc 600
aaaaaagnct atccacgcn tttntcacct gggcccagcg gnnctcctcc nggggggggn 660
aaacacangg gactcttccc ngggtngct tnnng 694

```

```

<210> 280
<211> 441
<212> DNA
<213> Homo sapien

```

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<400> 280

```

```

aaaaaacttc catgcaactt ctggtttatt gtttggcaac tccacatgat aaaaaataa    60
aaacagccca accgagtttc ggaattaagt attcttctag taagtgatc aaacttgtaa    120
tatttgccac aggactgact tatttattta ctagctagaa gctcttaagt tcacttggtt    180
atcagggcat atacagaagg gtttgtaaaa actcgatgtt aactttacaa cttctgacc    240
tggtgcatga attctcaagt actgtatttc actgtgttgg tgtgtctgat ggaaatttcg    300
aggtgggtccc acaaaaatat tttatgtagt gtgccttcaa agagaaccat ttatttctct    360
tcacttatcg tcccacaaag tcacatttgg tgggtggtcag ccaagtcgca tctggtctag    420
ttttactctt gtcccaattt t                                     441

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<210> 281
<211> 398
<212> DNA
<213> Homo sapien

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<400> 281
aaatttgta ggtctgaaga atctaaaact gttaatttaa cccttaactt gtgcctagaa    60
actacagcac atataaaata tgtaaacacc agcctgttgc tgtacttttc tgcttatttt    120
acagcctcaa atatttctca ttatcttgtc acttagttct tcatgtttct ccttctgact    180
tttaataatg gtaataggaa aacaaaaccc aaagcttttc agaacttcag tgtgagggtt    240
cctattttga caagttaact tgtaataact cagggttttac gatgtataat ttacctaata    300
gaccaaaact actcatggag atattttgaa ctattattta ggtacaaact ttataaagaa    360
tgtagtatg tcataaaata taacattaca gcttattt                                     398

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```

<210> 282
<211> 226
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(226)
<223> n = A,T,C or G

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<400> 282
aaaacaatat tctctttttg aaaatagtat naacaggcca tgcataata gtacagtgtg    60
ttacnccaat atgtaaagat tcttcaaggt aacaagggtt tgggttttga aataaacatc    120
tggatcttat agaccgttca tacaatggtt ttagcaagtt catagtaaga caaacaagtc    180
ctatcttttt ttttggtcgg ggtgggggag cccaggccga ggctgg                                     226

```

```

<210> 283
<211> 358
<212> DNA
<213> Homo sapien

```

```

<400> 283
aaacaaaaat actcaagatc atttatattt ttttgagag aaaactgtcc taatttagaa    60
tttccctcaa atctgagga cttttaagaa atgctaacag atttttctgg aggaaattta    120
gacaaaacaa tgtcatcttag tagaatattt cagtatttaa gtggaatttc agtatactgt    180
actatccttt ataagtcatt aaaataatgt ttcatcaaat ggttaaatgg accactgggt    240
tcttagagaa atgttttttag gcttaattca ttcaattgtc aagtacactt agtcttaata    300
cactcaggtt tgaacagatt attctgaata ttaaaattta atccattctt aatatttt    358

```

```

<210> 284
<211> 288
<212> DNA
<213> Homo sapien

```

```

<400> 284

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aaaacttttg	ttaagaaaaa	ctgccagttt	gtgcttttga	aatgtotgtt	ttgacatcat	60
agtctagtaa	aattttgaca	gtgcatatgt	actgttacta	aaagctttat	atgaaattat	120
taatgtgaag	tttttcattt	ataattcaag	gaaggatttc	ctgaaaacat	ttcaagggat	180
ttatgtctac	atatttgtgt	gtgtgtgtgt	gtatatatat	gtaatatgca	tacacagatg	240
catatgtgta	tatataatga	aatttatgtt	gctgggtattt	tgcatttt		288

<210> 285

<211> 629

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1) ... (629)

<223> n = A,T,C or G

<400> 285

cctaaaagca	gccaccaatt	aacaaagcgt	ncannctcaa	cacccactac	ctaaaaaatc	60
ccaaacatat	aactgaactc	ctcacaccca	attggacca	tctatcacc	tatanaagaa	120
ctaagttag	tataagtaac	atgaaaacat	tctcctctgc	ataagcctgc	gtcagattaa	180
aacactgaac	tgacaattaa	cagcccaata	tctacaatca	accaacaagt	cattattacc	240
ctcactgtca	acccaacaca	ggcatgtctc	taaggaaagg	ttaaaaaag	taaaagggaac	300
toggcaaatc	ttaccccgcc	tgtttaccaa	aaacatcacc	tctagcatca	ccagtattag	360
aggcaccgcc	tgcccagtga	cacatgttta	acggccgcgg	taccctaacc	gtgcaaaggt	420
agcataatca	cttgntoctt	aattagggac	ctgtatgaat	ggcttcacga	gggttcagct	480
gtctcttact	tttaaccagt	gaaattgacc	tgcccgtgaa	gaggcnggca	tgacacagca	540
agacgagaag	accctatgga	gctttaattt	attaatgcaa	acagnaccta	acaaacccca	600
caggtcctaa	acttacccaa	accctggca				629

<210> 286

<211> 485

<212> DNA

<213> Homo sapien

<400> 286

aaatgtactt	gctcagctca	actgcatttc	agttgtatta	tagtccagtt	cttatcaaca	60
ttaaaacctt	tagcaatcat	ttcaaattcta	ttctgcaa	tgtataagaa	taaagttaga	120
attaacaatt	ttattttgta	caacagtgga	atcttctgtc	atggataatg	tgtttgagtc	180
cctataatct	atagacatgt	gatagcaaaa	gaaacaaaca	aaagccagga	aaacactcat	240
tttcgccttg	aatatgtaaa	tgggattaat	tttgtcctgt	gccttatgtg	gaaagggaact	300
tctttggttt	tccttttttg	ttctgggtgga	agcatgtgca	ggagacatat	catccaaaca	360
taaaccatta	aaatgtttgt	ggtttgcttg	gctgtaat	tcaaagtagt	taattgagga	420
caaagggtaa	tgagaagtg	atagctttgg	tttgctgagt	cttgttttaa	gtggccttga	480
tattt						485

<210> 287

<211> 340

<212> DNA

<213> Homo sapien

<400> 287

cctggagtc	aataaccacc	ccctcatacc	acaccctgtg	catacaccag	ccaagccttt	60
cctggtctgg	gaagggaaga	gaaaaaagac	gcaggccacc	tgggggttct	gcagtctttg	120
gtcagtcag	ccttctatct	tagctgcctt	tggcttcgcg	agtgtaaacc	ttgcctgccc	180
ggaggcagga	ggcccagctg	gacctccgag	ggccatgagc	aggcagcagc	catcttgccc	240
tcaagcttgc	ctttcccttg	agtccctctc	tcccctcgcc	tctagccaga	ggtgtagcct	300
gcagatctag	gaagagaaga	gctggggagg	aggatgaagg			340

<210> 288
 <211> 290
 <212> DNA
 <213> Homo sapien

<400> 288
 aaacagtctc tcctcgggtg tctccttgtc aaactgttca tcccagtttc ctctgaaata 60
 gacagcattc accagaacca gccttggtcaa tggatccact gagcccgag agagcaactc 120
 cgcaatttta ccttctgtct ttccagctac ccagggtgtt atgtgttttc tggacttctc 180
 tacggcgctg ataaagtcaa gtcctccat ctctgcttgg tagaattttt ggcaggaatc 240
 tctaaaagat gagaggaaat cacaagactt ttcccaaaag agcctgttgg 290

<210> 289
 <211> 404
 <212> DNA
 <213> Homo sapien

<400> 289
 ccacccacgc ttaggttccc atcacactga tgactccggg tttggcgagc acaggagcgc 60
 aaaccttttc acattctttc tgtgatccaa atttggtttc gtttccacca caacctccat 120
 accagaatct tgcacagctt ttgggtgttt gatcatagta ccattttaat atgaaatccc 180
 tgcaagttcc ttctgttttc ggcaacttgc atatatctgt ttcagtgaga gccaatggtt 240
 ctgtgctcac cattagattg atggttgaac tagaagctga ccttgctggc tgtggaggtg 300
 ggggctgaga tttctttgta ctgaaacttc cgtggtaggg ggctctgacc tgagacctca 360
 ggtagcagac cacagccaca tggatatgtc gccagcgag cagg 404

<210> 290
 <211> 384
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(384)
 <223> n = A,T,C or G

<400> 290
 ccaggcgctc cttgtcggca tcagggaggg tggccttgaa ctgctcatgg gctgtggtca 60
 gtccctggat ctccctcaatg gtgtgcacaa tgaagggtgc ctgcagggtc tccatggccc 120
 cctccatcca gttgttgaag ggtgcagccc gcttggcata ctccaagtac agctgggtcaa 180
 tgggtctccag cagtttctcg gtccgctcca gagcttccct tcgcttctga gttagggccc 240
 ccagattgtc ccaactggtca cagatctttt ggcaacgggc gttgacactg ggtgagtcac 300
 aatantccag ctcatctgagc tcctgtgcga tggcggcaat ctgctccaca cggtccctggt 360
 gggcagccag gccactctcg aagg 384

<210> 291
 <211> 278
 <212> DNA
 <213> Homo sapien

<400> 291
 aaagtttatt tttactatct ctttatcact ttattgtatc atcaccattg gtttcataat 60
 gtaataacta tatgttgaac aaattaaatg tcaaaatttt ttattacctt agtccatggt 120
 aatagtgggg ctttcagggtg ttttagagatt tttttgtgtg ttgttaacat tcattgcaaa 180
 agtactagat ggtgtataac tctagagttg aattttaagg gattccctaa tatgtatact 240
 atctttttat ctgaagtaat aaataaacia tgatcttg 278

<210> 292

<211> 177
 <212> DNA
 <213> Homo sapien

<400> 292
 ccttgccccg gtcattcttg tccagtttga taggttcagg aaattcgttg tacagctcca 60
 cctccgtttc ctgcttaagt gcattccgtg caatcgtctg gaacgcctgc tccacgttga 120
 tggcctcctt ggcactgggc tcaaagtagg gaatgttggt ttgctgtag caccagg 177

<210> 293
 <211> 403
 <212> DNA
 <213> Homo sapien

<400> 293
 aaaaagaagg acttaggggtg tcgttttcac atatgacaat gttgcattta tgatgcagtt 60
 tcaagtacca aaacgttgaa ttgatgatgc agttttcata tatcgagatg ttcgctcgtg 120
 cagtactgtt ggtaaataga caatttatgt ggattttgca tgtaatacac agtgagacac 180
 agtaatttta tctaaattac agtgcagttt agttaatcta ttaatactga ctgagtgtct 240
 gcctttaaat ataaatgata tgttgaaaac ttaaggaagc aaatgctaca tatatgcaat 300
 ataaaatagt aatgtgatgc tgatgctggt aaccaaaagg cagaataaat aagcaaatg 360
 ccaaaagggt tcttaattga aatgaaaatt taattttgtt ttt 403

<210> 294
 <211> 305
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(305)
 <223> n = A,T,C or G

<400> 294
 aaagcaatct ggcattggtg cctgtagtga agcagaggat cataacataa gtaaactctc 60
 tatgggtgga agttggagag aaggacattt tggctttgta catgaaaaga ctctccagat 120
 agaaacagat tctgcccata agtgaaataa aatgctttgt gggggtaatg agtgacttat 180
 agtattcagg cagatgttac ataactgcta attaagtctc cctggattga ntttanncaa 240
 anaattgaaa gtngattttg gtcangtgct agnaaactac tgcctataaa cccatatcnt 300
 accca 305

<210> 295
 <211> 397
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(397)
 <223> n = A,T,C or G

<400> 295
 cctatctggt tggccttttt gaagacacca acctgtgtgc tatccatgcc aaacgtgtaa 60
 caattatgcc aaaagacatc cagctagcac gccgcatacg tggagaacgt gcttaagaat 120
 ccactatgat gggaaacatt tcattcccaa aaaaaaaaaa aaaaaaaaaa ttctcttctt 180
 cctgttattg gtagttctga acgttagata ttttttttcc atgggggtcaa aaggtaaceta 240
 agtatatgat tggcagtggt aaaaataggg gacagaaatc aggtattggc agtttttcca 300
 tttncatttg tggngngaatt tttaatatata atgcggagac gtaaagcatt aatgcnagtt 360

aaaatgtttc agtgaacaag tttcagcggg tcaactt

397

<210> 296

<211> 447

<212> DNA

<213> Homo sapien

<400> 296

ccatcctcga	tgttgaagtt	gtcgtggggc	ccgaagacgt	tggtggggat	gacagcgggtg	60
aaggtgcagc	cgtactgctg	gaagtaggcc	ctgttctgca	cgtcgatcat	cctcttggca	120
tacgagtacc	caaaattgct	gttgtgggga	ggccattgt	ggatcatggt	ctcatctatc	180
gggtaggtcg	tcttgtcagg	gaagatacag	gtggacaggc	aggacaccac	cttgcgggcg	240
cccacctcga	aggccgagtg	caggacgttg	togttcatgt	gcacgttttt	cctccagaag	300
tccaaattgt	atttgatatt	ccggaacagg	ccccccacca	ttgcagcaag	atggatgacg	360
tgtgtgagtt	ggaccttctc	aaacagggcg	cgggtctgtg	ctgtatccgt	gagatcggcg	420
tctttagagg	agacaaacac	ccagtc				447

<210> 297

<211> 681

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(681)

<223> n = A,T,C or G

<400> 297

aaataacagc	atgtaaaata	ttaaaataca	agctttcaaa	aataaataca	taaataagta	60
gaaccctcgt	aagaaatagt	caaacacatt	aagtcctttc	cagctgtccc	tagaaagctg	120
ctgttctctt	tttcattttc	agctctggta	agggcaggga	ccaccctgca	ggaagtgtca	180
atgatacgct	gataagcttc	ttaacttctc	cctgtcagtt	ggtgctcccc	ctgtgatgag	240
aaaaggggta	ctggtgcagg	tgctaaggaa	ggctgctctt	ctgtcactct	gaagttgctt	300
ggagggatgt	ccccatgcag	actctctccc	agccctccac	tcagggaagg	tctgtctgta	360
cccactgcct	tctatagcag	aaaacttgca	ctcctgaatg	cttttttttt	ttttcaagaa	420
agaagnggct	gnggactcaa	ctagattctt	ggtttgaaaa	agccaaaaca	tattgggtcac	480
tgattgtcac	attgggttag	aaatgtccat	tcatgatctc	ccttaagctg	cacacaaccc	540
tatgaaataa	ctaccattat	ctaccctatt	ttgctaaagc	tcaaagagat	taaataatgt	600
tgacagggat	cttagccttg	aactcactga	aggngttact	gcaaagttct	gctcttcacc	660
aagaaggntt	acaggccaaa	g				681

<210> 298

<211> 353

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(353)

<223> n = A,T,C or G

<400> 298

cctggcctta	gaccagacat	ttgaagaagg	ctccaggcag	ggaaaggaaa	ggagaggcca	60
gccccacnct	gnccctccc	tgccccacg	tctccagcaa	cacaaggcgg	ccagtggacc	120
gtgaaccatt	tatttccaaa	ctataaagaa	acctgctctc	tgagaaaana	cactgcccag	180
gngatgaagc	tccagcccct	ggaggtccaa	aaccagtc	aaactcagtc	cctttagaaa	240
gctgctgtgc	cttgaaatg	annntcggnt	gtcanagcct	gggaagtggg	gggaagaacc	300
agccactec	cctctcctgc	tgcgattcca	gcgcncgttg	ggnccagatc	tgg	353

<210> 299
 <211> 560
 <212> DNA
 <213> Homo sapien

<400> 299
 aaagttcaag gactaacctt atttatttgg gaaaggggag gaggaaggaa atgatatggt 60
 acccagacac tgggctaggc tgcaacttta tctcatttaa tactcccagc tgtcatgtga 120
 gaaagaaaagc aggetaggca tgtgaaatca ctttcattga ttattaatgg atttaagagg 180
 gcatcaatca gctcaactca agatttcata atcattttta gtatttagat tgtgcctcaa 240
 agttgtagta cctcacaata cctccactgg tttcctgttg taaaaacctt cagtgcgttt 300
 gaccattgtg ctcttggtctc ttgggctgga gtaccgtggt gagggagtaa aactagaag 360
 tctttagtac aaaactgctc tagggacacc tgggtgattcc tacacaagtg atgtttatat 420
 ttctcataaa gagtcttccc tatcccaagg tcttcattgat gccagtagcc atatatgata 480
 aattatgttc agtgataact tagttatcag aaatcagctc agtggctctc cccgccatga 540
 ttcacatttg atgagttttt 560

<210> 300
 <211> 165
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(165)
 <223> n = A,T,C or G

<400> 300
 aaaaactaca taggggtgtg tgtgtgtgtg tatgtttatt ttatacacac atatttgtat 60
 attctaatat attactaagg caattttaat gaattaccat gtatataaaa aaatatctgn 120
 caattggcac acaggtttgt atgtatgtgt atatatatat gtatg 165

<210> 301
 <211> 438
 <212> DNA
 <213> Homo sapien

<400> 301
 aaaatatatg tatttaaaaa caaaaagcaa cagtaatcta tgtgtttctg taacaaattg 60
 ggatctgtct tggcattaaa ccacatcatg gaccaaattg gccatactaa tgatgagcat 120
 ttagcacaaat ttgagactga aatttagtac actatgttct aggtcagtct aacagtttgc 180
 ctgctgtatt tatagtaacc attttccttt ggactgttca agcaaaaaag gtaactaact 240
 gcttcacetc cttttgcgct tatttgaaa ttttagttat agtgtttaac tggcatggat 300
 taatagagtt ggagttttat ttttaagaaa aattcacaag ctaacttcca ctaatccatt 360
 atoctttatt ttattgaaat gtataattaa cttaactgaa gaaaaggctc ttcttgggag 420
 tatgttgta taacattt 438

<210> 302
 <211> 172
 <212> DNA
 <213> Homo sapien

<400> 302
 ccaaaacagg agtcctgggt gatcatca tgagaccag ctgtgctcct ggatggtttt 60
 accacaagtc caattgctat ggttaactca ggaagctgag gaactggtct gatgccgagc 120
 tcgagtgtca gtcttacgga aacggagccc acctggcatc tatcctgagt tt 172

<210> 303
 <211> 552
 <212> DNA
 <213> Homo sapien

<400> 303
 ccagcctggt gcaggctgct tcgtagcggg cgtcggctgc ggacttcctt tcccgggtct 60
 ggatcttttc atcctaccag atgagaaaagg gaatgagtga atggagtgc cccgcaccct 120
 gtcactttcc tgagacatga ctgccaggaa gaagagctgc tctggtctcc atcagggtcg 180
 gcaggacaaa ctgaccagtg agtcagtagg cagagttcac actgaaaaag ggcacaaggg 240
 ctgtcccaca atgggaggaa atgggggtctc agaacttcta cttctctgaa aactaagaca 300
 caattgggac aaccaccacc cccgtgtgag atttctcacc tcgagacagg acaagatgaa 360
 gttcacggct tcttctgggg taaagacctt gaagagccca tcacaggcca acaaaatgaa 420
 cctacaacac caggggagaaa tataaacggg ttttaggccc aacaaaaaaa taaaaataa 480
 aaaaagggcc tggagatgga gataaaataa atatttgtcc aactattcaa aggctaaggt 540
 ttttttttct tt 552

<210> 304
 <211> 601
 <212> DNA
 <213> Homo sapien

<400> 304
 cctttgatcc ttggtagtac attgcatgta aaatgtttat aagaagctac ttttccttca 60
 tgggaagaaa ttcccacatg agattcataa attcttagac tccgtggctt ctttgggtccg 120
 gaatgctttaa actcatatga gtgttctgga tcccagtgtg tccaatcata attcacatta 180
 tcaccttcac gaaccacata ctttgcccac ggtgaaatac gatacaagat ctctccgctt 240
 ttactagtaa taactacctt taatttggat ccatgaggca cgagtacaga tttattctgc 300
 tttggtggga tatacagctc ccattttcca taatccagtt ttttgtatgg gtacgaaaat 360
 ggattccaac cattaaaatc tccagtaaga aaaactcctt ctgctcccgg ggcccattct 420
 ttgcagtata aaccaccatc agcacatctg tggacgccaa atgattcata gcctctggaa 480
 aacttatcaa taccaccttc attttctcca atgttcttca aaatttggct aaactgctta 540
 tacctgcgct ggaagtccac ggcgtagggc ttcaagtacc ggtcgatctc caggagtctg 600
 g 601

<210> 305
 <211> 401
 <212> DNA
 <213> Homo sapien

<400> 305
 aaataacagc atgtaaaata ttaaaataca agctttcaaa aataaataca taaataagta 60
 gaaccctcgt aagaaatagt caaacacatt aagtcctttc cagctgtccc tagaaagctg 120
 ctgttctctt tttcattttc agctctggta agggcaggga ccaccctgca ggaagtgtca 180
 atgatacgct gataagcttc ttacttctct cctgtcagtt ggtgctcccc ctgtgatgag 240
 aaaagggtta ctggttcagg tgctaaggaa ggctgctctt ctgtcactct gaagttgctt 300
 ggagggatgt ccccatgcag actctctccc agccctccac tcagggaagg tctgtctgta 360
 cccactgcct tctatagcag aaaacttgca ctctgaatg c 401

<210> 306
 <211> 313
 <212> DNA
 <213> Homo sapien

<400> 306
 aaactgacta tggattcctt gaaggctctgg cagttgttga tgatggcgat catgtactga 60
 acgtagcagt gagggtgctg ccgattcctc aggtgctctt ctttatacag ctgcgcttca 120
 tctttatata tgaggacaga caggcttcgg tcagacagca ctaagggcaa catggagctg 180


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tttcaaatgc cacgctgacg tcacgcctgg cctgaaatth cacatcacta acatctgacc 240
ggatgagcct ctaaaaataa aacaatcttt agacgatcca gactaatgga aggacagaga 300
ggttgattac ttt                                     313

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```

<210> 307
<211> 366
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(366)
<223> n = A,T,C or G

```

```

<400> 307
aaagatgctg ntaatgaaca ttacggacaa ttcattggtg ggctagttag taacacttca 60
gctgattttt cttatgagat ggaaaaaaaa aatcagccaa gtaagggcac atcttcactt 120
catttataag tcagcatcca aggtaaaaga attctctgtt ggacttgaca tcaactccat 180
cctctgatac tcgcctactc tcttctcaaa gaagttagnt ctttccttcc antgaaatat 240
tctcataaaa gtcaaatggg ttctctactc tgaaaacctt gctaaaacct aattccagca 300
taagtttgtc tgnacaaaac ncaatgnatt gcttcattaa antgcaattc atcccaatga 360
gcttcc                                     366

```

```

<210> 308
<211> 534
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(534)
<223> n = A,T,C or G

```

```

<400> 308
ccagctatca gctgatcgtc ttctgtctgg acgctcgctc tgcttctgac atcaaaatct 60
tctgtctcaa agtcagagtc atccaaactc tcaggggtcc ttatcatcag cactgctttc 120
ctgatgtccc ggatgccatc atataccagg cggaagcat cgataaactc attctcatcc 180
atgggctggg cagggtccga gctgagggct tccacggctg cttctacttg ctcagtaaaa 240
cgtggcatga ctgtgttggg gagcagctta gtggcttcca gaaccttctc tgtgtagact 300
cctggctcat agtcgtccat ctctgaggtg actacgtgaa tgaccgggc tgcccgccct 360
cgaattgcac cagctgtgcg gccaggccat ccacatcctt ctcttggaga gcaatgacac 420
atgttgacac atcttccaaa atgtgattct ctgagacagc caagaagtca tcaatggaag 480
taatgncatc gacagcatct gtgagaacac cgacttggtt ttccattgnt cttt 534

```

```

<210> 309
<211> 164
<212> DNA
<213> Homo sapien

```

```

<400> 309
catactcctt acactattcc tcatcaccca actaaaaata ttaaacacaa actaccacct 60
acctccctca ccaaagccca taaaaataaa aaattataac aaaccctgag aaccaaagt 120
aacgaaaatc tgttcgcttc attcattgcc ccacaaatcc tagg 164

```

```

<210> 310
<211> 131
<212> DNA
<213> Homo sapien

```

<400> 310
 aaaaatcatt tatctttcgg tgcttcaaca tgatgccaaa caaaaatcta ctgaataaaa 60
 atagcaagga agggaatcaa acatttataa gatatatatta ttatTTTTTct gaccaaagtg 120
 caatgatttt t 131

<210> 311
 <211> 626
 <212> DNA
 <213> Homo sapien

<400> 311
 cctatgtgcg ccagtttcag gtcacgcaga accagaaacct cctcttcgag ctctcctaca 60
 agctggaggc aaacagtcag tgagagtggg ggctccagtc agaccgcga gatccttggg 120
 cacctggcac tcaagcactt tgcacgatgt ctcaaccaac atctgacatc tttcccgtgg 180
 agcaacttcc tgctccacgg gaaagaggtc gatggattta cccctggacc cataagtctg 240
 ttcacctgc tgaagtcccc tccccattgc tccttcaagc caaaactaca ctttgctggt 300
 tcctgtcccc tctgagaaa gggatagaaa gctccttctc ctatgtcctc ccatcgagat 360
 ctgttctggg gatggagctt ccaacttcct cttgcagcag gaaagaatgc tgctcaccct 420
 tctgtcttgc agagtgggat tgtgggaggg attggcagcc ttcttctcca ccacctgtcc 480
 agcttctctc tggtcagggc tgggaccccc aggaatatta tgttgccgtg tgtgtgtgtg 540
 tgtgtgtgtg tcttctttta gggagcagga gtgcacctgg taattgaggg tagatgttgt 600
 gtgtgtctgg gaggggtcct tctgtt 626

<210> 312
 <211> 616
 <212> DNA
 <213> Homo sapien

<400> 312
 aaaccaaaga aattaagaaa aaagacttca ttgcttgaat gacgcgaaca gctgtctgag 60
 tcacctagac tttaacacca cctggggccc tgggaatgac gctgacgaga gatctgcaca 120
 tagtaggcgt gggctocaaa tgtgctcatc agctgacttc acatcctcac aagtcagcct 180
 cagatatgac ccaaggggata cgtaccatct cttcttgaaa cagcgtgtca aattatata 240
 atgtatgcaa aaaagagtaa tgtactaagc aaaccaagtt tctgtctttt cttctgaatc 300
 tgggttttaat gtgacctgtc atccccatct ttcgaattta tgagctccat cttctctaga 360
 ctgttaactt cttgaggaaa acatgctatt ttaccacctt tcaactgctga atccctagcc 420
 cttaagcaca gtctctggca cagaataaat acgaaatgaa tgagtgaatg aatggatgga 480
 tgggtgaaga gaaaaggcaa tgcacaagat ttacctatca aaatccacca atggtcctta 540
 aaaatgggtt tgtcagtaga gatgctgaat atattcatat aatacattta tttcaatact 600
 attaagaatt ctagtg 616

<210> 313
 <211> 553
 <212> DNA
 <213> Homo sapien

<400> 313
 aaaaaatggc agcattgtac ttgaatcaga aagcttactg ggatttcctc atcgaaagta 60
 gagattgcag ctaatcctag taccttttgt tagtaattac ttaaggcaca gtgcaaagtt 120
 gaaggactgt tttggtacaa actcaagcca gctacatgta tgcttgccct ggatccttg 180
 cttaggcaca tgcgggtata ataccgtatt atacacaaca aggccacctt gttgtatctg 240
 tgttacaatt aaacatcagt cccagaaaagt gaaccctagt catttattat aggtgccac 300
 ctctgacttg gaacaaaatg ccaactccatt catgttcatt tttgtcctgg agaggattta 360
 tttcctaaaa gattotgaaa gccacaatat caatgtagtt ctcatagag aacttaagag 420
 taaggctcaa aatggcctca aaatgggctt cttggatgac ttccaacagt gactggcctt 480
 ctcaacactg cagatgtctg agcactacca taacctaacg aagtgaggaa ggaggaggca 540
 aattggtatt ttt 553

<210> 314
 <211> 330
 <212> DNA
 <213> Homo sapien

<400> 314
 ccagcgactc cagcgggtggc agcaggcagt gcacgtactc tgggcctccc accagggtag 60
 tgaaggttcc cagctgttct gccagggccca ggaggacctc atcttcatca tagatggtat 120
 ctgtaaggaa aggcagaagc tcaacttcggg tcctttcaac cccaagggcc aaggcgatgg 180
 tggacagctt cttgatgctg ttgaggcgaa gctgaacgtc ctcatcgcg agttcgtcta 240
 tgagcaccgc gatggggtac agcgagtcgt cgccgtcggc cgccgccatc ttggctccgt 300
 ccctttcctg tcagactgcg gccagcgtcg 330

<210> 315
 <211> 380
 <212> DNA
 <213> Homo sapien

<400> 315
 aaaaatgaca ttgcgttttag cttattgtaa gaggttgaac ttttgtatth tgtaactatc 60
 ttttaagccct tcagttttata attcatataa aatgcctttt gtatttataa taatcctatt 120
 ttaatcagtg catgaaattt gcttttttaa agttcatttg aatgattatt ccttccctct 180
 aaagaaatga ttttggtaat gttgagaggt accttaccac aaatcctaac tgtaagtgt 240
 ttcattggtta ttttcaaaaag aattatgact cttcccaaaa agaatcctaa aaaacttgta 300
 ataaacctat aaagctgatt tgcattttta caaaattttg aatagcaaat ataggcaact 360
 catatatgta tataattttt 380

<210> 316
 <211> 222
 <212> DNA
 <213> Homo sapien

<400> 316
 aaactacaga gggttttcca gctattatth ccttttagtt ctaaaagtaa cgacttatat 60
 taatgtttta taaaagatag tgatgaaaaa aaggtaatgc tgaaataaag gcgcttttag 120
 aaatatttaa ggacaacata aggtattaat attggaaaaa aactgtacat attttcaagc 180
 acaacactga aatattgcag cagtgtttta ctgaattgtt tt 222

<210> 317
 <211> 490
 <212> DNA
 <213> Homo sapien

<400> 317
 ccttgaatga gcgtggagag cgattaggcc gagcagagga gaagacagaa gacctgaaga 60
 acagcgccca gcagtttgca gaaactgcgc acaagcttgc catgaagcac aaatgttgag 120
 aaactgccta tcctggtgac tcttcttaag agaaactgaa gagtttggtc agcagttttt 180
 acaagaattc gggacctccg cttgcttctt tttttccaat atttgacac ttagagtggg 240
 ttttgtttt tcttttcaga tgtaaatgtg aaagaaaggg tgttgcatth ttacatttcc 300
 ctaatgatct tgctaataaa tgctacaata gcacgggctt catthtggtt ttttgcctcc 360
 tcccactgtg tgatgtgtg tatatgtatg ttttgaatat gttttcttta ttaaaaaata 420
 tttttgtag tttgaatatg aaatttggac caaatgataa actgcgctga gtctaaactg 480
 gcaacatgta 490

<210> 318
 <211> 340
 <212> DNA

<213> Homo sapien

<400> 318

cctggagtc	aataaccacc	ccctcatacc	acaccctgtg	catacaccag	ccaagccttt	60
cctggctctg	gaagggaaga	gaaaaaagac	gcaggccacc	tgggggttct	gcagtctttg	120
gtcagtcacg	ctttctatct	tagctgcctt	tggcttccgc	agtgtaaacc	ttgcctgcc	180
ggaggcagga	ggccagctg	gacctccgag	ggccatgagc	aggcagcagc	catcttgccc	240
tcaagcttgc	ctttcccttg	agtcctctc	tccctcggc	tctagccaga	ggtgtagcct	300
gcagatctag	gaagagaaga	gctggggagg	aggatgaagg			340

<210> 319

<211> 373

<212> DNA

<213> Homo sapien

<400> 319

aaagatgctg	ttaatgaaca	ttacggacaa	ttcatggtgt	ggctagtgtg	taacacttca	60
gctgattttt	cttatgagat	ggaaaaaaa	atcagccaag	taagggcaca	tcttcagttc	120
atthagaagt	cagcatccaa	ggtaaaagaa	ttctctgttg	gacttgacat	cactcccatc	180
ctctgatact	cgctactct	cttctcaaag	aagttagtct	ttccttccag	tgaaatatc	240
tcataaagt	caaatgggtt	ctctactctg	aaaaccttgc	taaaaccag	ttccagcata	300
agtctgtctg	ccacaaactc	aatgtattgc	ttcattagag	tgcaattcat	gccaatgagc	360
ttcacaggca	agg					373

<210> 320

<211> 509

<212> DNA

<213> Homo sapien

<400> 320

aaaaacaaaa	ttaaattttc	atttcaatta	agaccccttt	tggcattttg	cttacttatt	60
ctgccctttg	gttaacagca	tcagcatcac	attactattt	tatattgcat	atatgtagca	120
tttgcttctt	taagttttca	acatatcatt	tatatataaa	ggcagacact	gagtcagtat	180
taatagatta	actaaactgc	actgtaattt	agataaaaat	actgtgtctc	actgtgtatt	240
acatgcaaaa	tcacataaaa	ttgtcattta	accaacagta	ctgcacgagc	gaacatctcg	300
atatatgaaa	actgcatcat	caattcaacg	ttttggtact	tgaaactgca	tcataaatgc	360
aacattgtca	tatgtgaaaa	cgacacccta	agtccttctt	tttaaaaatg	acattgcgtt	420
tagcttattg	taagagggtg	aacttttgta	ttttgtaact	atctttaage	tottcagttt	480
ataattcata	taaaatgcct	tttgtattt				509

<210> 321

<211> 617

<212> DNA

<213> Homo sapien

<400> 321

ccaaggcccc	ttttgcagcc	cacggctatg	gtgccttctt	gactctcagt	atcctcgacc	60
gatactacac	accgactatc	tcacgtgaga	gggcagtggg	actccttagg	aaatgtctgg	120
aggagctcca	gaaacgcttc	atcctgaatc	tgccaacctt	cagtgttcga	atcattgaca	180
aaaatggcat	ccatgacctg	gataacattt	ccttcccaa	acagggtccc	taacatcatg	240
tcctccctcc	caactggcag	ggaaactttt	tttgatgggc	tcctttattt	ttttctactc	300
ttttcaggcg	cactcttgat	aaatggttaa	ttcagaataa	aggtgactat	ggatataatt	360
gagcctctctg	gtccagggtct	cagtttacct	aatattacct	cagaaaggat	atggagggaa	420
gatgatcttt	ttgccaggtc	tgacttttct	tcctgtctcg	ccctccatta	acgctcagta	480
cccttttagca	gtcgacggcc	ccacgttcta	ctccatgctt	ggcttccctt	ccaactagct	540
ctttcatata	ttttacttgc	tagtatctcc	attctctcta	aagtagtggt	tctttttgcc	600
cttaaaactta	aattttt					617

<210> 322
 <211> 403
 <212> DNA
 <213> Homo sapien

<400> 322
 aaaaagaagg acttaggggtg tcgtttttcac atatgacaat gttgcattta tgatgcagtt 60
 tcaagtacca aaacggttgaa ttgatgatgc agttttcata tatcgagatg ttcgctcgtg 120
 cagtactgtt ggtaaataa caatttatgt ggattttgca tgtaatacac agtgagacac 180
 agtaatttta tctaaattac agtgcagttt agttaatcta ttaatactga ctcagtgtct 240
 gcctttaaat ataaatgata tgttgaaaac ttaaggaagc aaatgctaca tatatgcaat 300
 ataaaatagt aatgtgatgc tgatgctgtt aaccaaaggg cagaataaat aagcaaaatg 360
 ccaaaagggg tottaattga aatgaaaatt taattttgtt ttt 403

<210> 323
 <211> 298
 <212> DNA
 <213> Homo sapien

<400> 323
 ccagaattag ggaatcagaa tcaaaccagt gtaaggcagt gctggctgcc attgcctggt 60
 cacattgaaa ttggtggctt cattctagat gtagcttggt cagatgtagc aggaaaatag 120
 gaaaacctac catctcagtg agcaccagct gcctcccaaa ggaggggcag ccgtgcttat 180
 atttttatgg ttacaatggc acaaaattat tatcaacctt actaaaacat tccttttctc 240
 ttttttctct aattatcatg gagttttcta attctctctt ttggaatgta gatttttt 298

<210> 324
 <211> 78
 <212> DNA
 <213> Homo sapien

<400> 324
 ccatgggaag gtttaccagt agaatccttg ctaggttgat gtgggccata cattccttta 60
 ataaaccatt gtgtacat 78

<210> 325
 <211> 174
 <212> DNA
 <213> Homo sapien

<400> 325
 ccatcatggt caggaactcc gggaagtcaa tgggtccggt cccatctgca tccacctcat 60
 tgatcatatc ctgcagctct gtttcagtgg ggttctgtcc cagggatctc atcactgtcc 120
 ccaactcctt ggtggtgata gtgccatctc catccttgtc aaagagggag aagg 174

<210> 326
 <211> 679
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(679)
 <223> n = A,T,C or G

<400> 326
 aaaactgaaa tacctcttaa aataatttga tccccagcgt ttgctctttt tgaagtaacc 60
 aacttactct taaaaaggat ggntgccaag atggaaagtc ttactgggtt ttcatgttaa 120

```

cctattcttt ggacataact atgaattttg tatacaatgc acttcatgaa aagttgtggc 180
tccccagat tgccacaaag tgtgatcttg aagtcctaaa catttgtcca tgtaagcttc 240
aaaacagcgt taactgagtt attcaagtag cagtacttaa agatacaatt cttgaagcag 300
tttcaatggt ttctgatcca aataatcagt ttctgaacat tactacttca cataatagag 360
tccatcttca gtttcttctc actttctctt tcccttttgg gtttcctttt tgtggcctga 420
ggccaccagt tctttgggta ctatcaagat acttccatca tgggtacact ggagagcata 480
gtggttggga ttgactggcc taccttggtc atctcttaat ctactaaaaa tatcatgata 540
aaggtcatgc agtttctggt tcattatggt aatagctttg gtacattgtg cttgctctct 600
cttaanagtt tccttctttg cttgcaagtt acatacatca tcttctaaat tcaaaattat 660
gtccattttg gcgtttacc 679

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<210> 327
<211> 619
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(619)
<223> n = A,T,C or G

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<400> 327
aaaataagtt actggtaaat ggagttgcat tctatagtca cttataaat attaacaaaa 60
tatttataac tggaacctta atgaaatgta tcatcaaatc aggtaaaagc aacttgtccg 120
cagttaccaa agcctanata cgcgttagat gcgccttttc cggcctgtgc gtctgctctg 180
gttctcttca ggacgaaaag ctggggaagg aagctcaggc aggagcctcc ccgacgccac 240
aacggcacaa gcagcagcta aagcaccgca ctttgcctta ctaacctttt acttaaatga 300
ggttttgcc aatccacatc tggaaaccgc tcacacccat ttgcaaggat gtttgttctt 360
tgatgaaact gcatctctac tgcacatgag ggctttcatt gtaggacaag aggagagttc 420
gtttattttt gtaactgttt tacatgttcc gattagttaa tcggtagctt atgtcatttg 480
ctatgcctgn agncttctaa tctctcctta ctaaaacatt acttcaaatt tgaattgacc 540
cttgggtata atttatttag ccgggatttg tgtgtcattg tagagcaact ctaattcaag 600
aatagtgaca acttttaag 619

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```

<210> 328
<211> 132
<212> DNA
<213> Homo sapien

```

```

<400> 328
aaatccaaat acaaaagcat agtctctgca agattttgtt ctttgaattt cttgatattg 60
taattgatta ttgataactg tcatcatgaa attatctctc aataataaga taaataaact 120
agcatatgaa tc 132

```

```

<210> 329
<211> 854
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(854)
<223> n = A,T,C or G

```

```

<400> 329
ccttgaggta actattgcaa aatatacagt gtaagttcag tctgatggaa accccagatt 60
catcaaggat acaaactctac agtagcccaa tggcggttct atagtgtata atttattatc 120
aataaaatta actccgttac aatcagcatt catttctctc aattaaaatt aagcataaac 180

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cctaggtagt	aaccttctgc	acatatgtat	agctccgaat	ttcctcactg	ttcgtctggt	240
gcaaaaacaa	tattcaagct	tgtctgatta	tgcataTTTT	ctttaatcat	atagattata	300
tatacaatag	acaagacagg	actatataga	taatggacag	acttaaatgc	cgcatttttt	360
aaggtggaga	aatgatgaa	tctatgcac	cccgagaaca	cttaaaattt	ttttttattt	420
cactgggaaa	ttcttacagc	tactttacaa	tcataggtta	acagcctagt	tatacagaag	480
acatatcca	ctacagagct	atactctatg	caactgtttt	ttccctcat	aaacaacctg	540
agttcaaatt	gaattctatc	ttccacaatc	acaatgggtg	catcacccag	tacacagaag	600
tttgaatcac	aaaacataat	taccacaata	aaacacagtg	ttcaagtatc	ttggcagagc	660
aatctgcgc	acaaactgca	aattaaatta	actacacaga	ctaaaaacta	tacagcctac	720
catcacagtt	gtgcattata	aaaaagggag	tttctttcct	ttggttttta	gtcaggaaca	780
gggtaggatt	ttttaccctc	nggccgggga	ccacgctaaa	ggggcgaaat	ttcttgccan	840
natattccnt	tcac					854

<210> 330

<211> 299

<212> DNA

<213> Homo sapien

<400> 330

ccaatgaata	actgacttta	taatcctggg	caatcagctt	ttggcggggt	gtaagtgctt	60
ctcgacactt	ttcactcatg	gattcttcaa	atztatgggt	aaagaggcac	ttatacactc	120
tgccctcacc	agcttggtga	ttttcacaaa	aacgtctccg	atcatctcgg	caagcaaaat	180
ataaatgcg	gtctaagtga	aagtcacccg	atgacagctc	agccaccggg	agaatggctt	240
tcttgacagag	ttcagaaact	tgaatcttgg	gttctctttc	ttctgcttct	ttcaccagg	299

<210> 331

<211> 573

<212> DNA

<213> Homo sapien

<400> 331

aaagatatga	acagcttaat	tttccgtgtg	attatctaatt	taaaaaagaa	aaacaaaaca	60
agcaaaaatgt	tcaagttaaa	aaaaaaacat	accgggtgag	caatgcacta	aaattatcca	120
catgaaaaca	aatgggtctgt	aatcttataa	accaacatag	catttcactg	tcaacaatgt	180
gaaaatttaa	tatcttctca	aacaggcata	agatgaagaa	gtgctatttt	ttaattgtaa	240
aaggaaactta	tgtaatgtaa	aattacatta	taatttttca	ttccgaattg	acaaatgatt	300
tcaaaaacaa	ggatcaaaagt	ttgactgcaa	atagtaaatgc	aatataattt	cataaaaaatc	360
cttcaatttc	tatttttttc	cttttctgta	gttgacatat	gaagaccact	tcaatttcta	420
aaaaaaggaa	ccattccaat	tttccctccc	caagaaaatg	tctcacaatt	acaaagtaga	480
aaaacagccg	ttcataaatg	caaaaaaatt	ctgattttata	tatgaaataa	tttctagatc	540
aattcaacat	atttgatgac	atttggtgag	ttt			573

<210> 332

<211> 555

<212> DNA

<213> Homo sapien

<400> 332

aaatttgaaa	gttgtaagca	ctgatgttaa	tgtgattgat	cagcatgggc	atatgtaaaa	60
tgtccttttc	tggttgcttc	tctatgctat	tgtgttcaga	tacttacacc	ataattaaac	120
agtaagttat	agacttgctg	agtttggcat	agatagtgcg	ctcatttaat	ctgtgcctct	180
caaaacttca	gaatattagc	atattaccac	aaataatttt	tggtgaaact	attgagatat	240
taaaattttt	gaaatcacta	ctgttacctg	ttatagaaaa	tagtggtggc	ttagtctagt	300
ctctgtgtaa	ctggttacat	tttgatgggt	gtctatactc	aactggatat	gtgtatgtaa	360
attagaaaaat	acatacctat	ccagacataa	atgctaagta	acattttttt	cttccctcaa	420
ctacataatt	tgtagctcat	catttttctc	taatcctttc	ctaacttgtc	gcagcagttt	480
gaatttccca	gatatttatg	tttgaacata	atggctcaga	atacatattt	gaacatcata	540
gttgatatata	ttttt					555

<210> 333
 <211> 460
 <212> DNA
 <213> Homo sapien

<400> 333
 aaatttcttt caacagtcta ttgggggtcca aaaagcatat atcaaaacaa aaataacaaa 60
 agcaaaacaa aatgctacat gtaaaagcta aagaaagaaa atgcagcata ttcaggttct 120
 ttttcttgag gtacctatat aaatttaatc acctgcccc aagtcctctc gttagggttaa 180
 aaacacaatg cgtcctgggg agccaattgc cgggcacgtc ttattactga gaaagtgcaa 240
 gaatgctgat catcttatgc agcatactaa aggatgattt actctttaca aaatagagct 300
 taagtatcaa cctgatggaa gttagaaaat taaaaacatt taagtagaat catctctctc 360
 tctatttttg agatcctgca gcaaaaagcc tcccaaatca actttcaaag ttctgccatt 420
 aaggaatggt ggttctcttg taaaattcag agatctcttt 460

<210> 334
 <211> 190
 <212> DNA
 <213> Homo sapien

<400> 334
 ccaaggaagg ctgtgctcta gccatctga ccctgtctgc aaaccacctg ggggacaagg 60
 ctgatagaga cctgtgcaga tgtctctctc tgtgccctc actcatctca ctggatctgt 120
 ctgccaaccc tgagatcagc tgtgccagct tggaagagct cctgtccacc ctccaaaagc 180
 ggccccaagg 190

<210> 335
 <211> 394
 <212> DNA
 <213> Homo sapien

<400> 335
 aaatttggac agacttctag cggacagtta cttctcaaga attttctata caaaagctgt 60
 gccaggcata tattttctca ccaggacaca tggggcagcg gacccctggt gtcagtaaga 120
 acacaccag aatgatataa ccagatattt ttcagtttct aaattaaggc atattcaaaa 180
 aattccatgt acaagtttac accacttttc taagttaact accaggtaat taaagcagat 240
 tcacagatga attactctca gtttaactat atgcaacaac catgccaata acttttcttc 300
 taaattttgc ataataatgg ttaaaaaaag tggtagttta actatcatgt tcacaattgt 360
 catttttcaa ggcagtagaa gaccaagaca tttt 394

<210> 336
 <211> 429
 <212> DNA
 <213> Homo sapien

<400> 336
 aaaagctatc accattgtag tagaatcatc cttctttttt gaaatttgaa gcatcccagg 60
 cttaaaatct tgtgtttcag aaagacagtt tataccatga ctgcttaatt atcccccaa 120
 agaccttctg attgaagtca tgtacagttc agtggcctaa attctctgcc tttttaactt 180
 gctttgcaag cctactctga aaataagtta tttagtcaag ttattctcaa agatgtccca 240
 gttgcctaga aaggatcaaa tggaacattt gacacacata ctcaaaaaaa tgtaactgac 300
 tataaacact ttaacctaat catctgtatc aaactttcta aaaatcaaat ctccaggattg 360
 ttccacttta gagattctat gtaaagttta tataactata cttgtcaaat agcacctatc 420
 tatgcattt 429

<210> 337
 <211> 373

<212> DNA

<213> Homo sapien

<400> 337

aaagatgctg ttaatgaaca ttacggacaa ttcattggtg ggctagtgtg taacacttca	60
gctgattttt cttatgagat ggaaaaaaaa atcagccaag taagggcaca tcttcagttc	120
atttagaagt cagcatccaa ggtaaaagaa ttctctgttg gacttgacat cactcccac	180
ctctgatact cgcctactct cttctcaaag aagttagtct ttccttcag tgaaatattc	240
tccataaagt caaatgggtt ctctactctg aaaaccttgc taaaaccag ttccagcata	300
agtctgtctg ccacaaactc aatgtattgc ttcattcagag tgcaattcat cccaatgagt	360
ttcacaggca agg	373

<210> 338

<211> 366

<212> DNA

<213> Homo sapien

<400> 338

ccatccctt atgagcgggc gcagtgatta taggccttcg ctctaagatt aaaaatgcc	60
tagcccaact cttaccacaa ggcacaccta cacccttat cccatacta gttattatcg	120
aaaccatcag cctactcatt caaccaatag cctggccgt acgcctaacc gctaacatta	180
ctgcaggcca cctactcatg cacctaattg gaagcgccac cctagcaata tcaaccatta	240
accttccctc tacacttatc atcttcacaa ttctaattct actgactatc ctagaatcg	300
ctgtcgctt aatccaagcc tacgttttca cacttctagt aagcctctac ctgcacgaca	360
acacat	366

<210> 339

<211> 319

<212> DNA

<213> Homo sapien

<400> 339

ccttccctcc ccaccacat caacctctc aaaacctact ccctccctct aagtatctct	60
caacacagta tgtctggggc tagatttcaa aaccacgta atgaaaaagt cagttttaca	120
agcctaattt tgttggtttt tttttatat caattaacgt taaaaattgc atcaactatt	180
taattcatga ggatctttca tattaataatt taaccttaag attcaaccgc catgtgcttt	240
tataaaggaa acatttttta gagacgtctg agctcacttt tacatggttg tgccctactgc	300
cgtaaatggt tgtgatttt	319

<210> 340

<211> 278

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(278)

<223> n = A,T,C or G

<400> 340

ctaataaaat gaattaacca ctcatcatn natctaccca cccnatocaa catctccnca	60
tgatgaaacn ncggctcact ccttggcgcc tgccgatcc tccaantcac cacaggacta	120
ttcctagcca tgactactn accagacncc tcaacngcct tttnatcaat nggncacatn	180
actcganaen taaatnatgg ctgaatcatc cgctacctnc acgccaatgg cagcctcaat	240
attctttatg ctgcctcttc ctacacatgc gggcgagg	278

<210> 341

<211> 400

<212> DNA

<213> Homo sapien

<400> 341

ccagcatggg	gctgcagctg	aacctcacct	atgagaggaa	ggacaacacg	acgggtgacaa	60
ggctttctca	catcaacccc	aacaagacct	cggccagcgg	gagctgcggc	gccacacctg	120
tgactctgga	gctgcacagc	gagggcacca	ccgtcctgct	cttccagttc	gggatgaatg	180
caagttctag	ccggtttttc	ctacaaggaa	ttcagttgaa	tacaattctt	cctgacgcc	240
gagaccctgc	ctttaaagct	gccaacggct	ccctgcgagc	gctgcaggcc	acagtcggca	300
attcctacaa	gtgcaacgcg	gaggagcacg	tccgtgtcac	gaaggcggtt	tcagtcaata	360
tattcaaagt	gtgggtccag	gctttcaagg	tggaagggtg			400

<210> 342

<211> 536

<212> DNA

<213> Homo sapien

<400> 342

aaagaacaat	gggaaaaaca	agtcogtgtt	ctcacagatg	ctgtcgatga	cattacttcc	60
attgatgact	tcttggtgtg	ctcagagaat	cacatttttg	aagatgtgaa	caaattgtgtc	120
attgctctcc	aagagaagga	tgtggatggc	ctggaccgca	cagctggtgc	aattcgaggc	180
cgggcagccc	gggtcattca	cgtagtcacc	tcagagatgg	acaactatga	gccaggagtc	240
tacacagaga	aggttctgga	agccactaag	ctgctctcca	acacagtcac	gccacgtttt	300
actgagcaag	tagaagcagc	cgtggaagcc	ctcagctcgg	accctgccca	gcccattgat	360
gagaatgagt	ttatcgatgc	ttcccgctg	gtatatgatg	gcattccggga	catcaggaaa	420
gcagtgtctg	tgataaggac	ccctgaggag	ttggatgact	ctgactttga	gacagaagat	480
tttgatgtca	gaagcaggac	gagcgtccag	acagaagacg	atcagctgat	agctgg	536

<210> 343

<211> 646

<212> DNA

<213> Homo sapien

<400> 343

aaaacttcta	ttcatcaaaa	gacataaaga	aaacagtcaa	gccacagact	aggtgtaata	60
tctcaatata	tatatocgac	aagagaattg	catctagaat	gtataaagaa	tttctatgac	120
ccaattatag	ctatcaggga	tatacaaat	aaaaccacaa	tgaaacatca	ctacacaccg	180
attggaatgg	ttaaaaagga	aaaatactga	caacaccaat	atttgtaaag	acaggaggta	240
ccagaactct	cattcattat	attcataaat	tgacaaaat	aaaaactgct	atagtagggc	300
agtcttccct	agaaagggat	tgtgggcatg	acagagaaca	atattaatct	gtocattata	360
ttccttaact	gtaaaatgga	gaccatatgt	tccaccagct	tcacttggtg	attatgatac	420
atggctatta	agagactcaa	atgactccat	ttcatcaact	aatatgccct	gtcaattcta	480
cttctaaagt	atcccatgtt	ctatccaatg	tcataccact	atcataat	aagtgttcat	540
aactctctat	aatattttcaa	taatctaact	ggtctcaatg	cctgtagtag	aaattgcaga	600
ttgggctccc	caattttctgt	tccctaggaa	ggctgagaaa	gctttt		646

<210> 344

<211> 383

<212> DNA

<213> Homo sapien

<400> 344

cctgcacccc	agtataaggg	cctccccagc	tgagtaagaa	gctgtttccc	ctcctctcat	60
aggccaagcc	tattgtgtga	aaccatctca	tggtcttggg	gacgtagacc	atTTTTgaaa	120
ccgtctcatg	gtcttggtga	cgtagaccgt	ttgtctcttt	aactocagcc	gcggaatgac	180
attagtggaa	ccgggctagg	gaactgctgg	aagttcagga	tgccaccacc	ttgaacacct	240
aggccaggga	tccccaccat	gtcccgggtt	tctttcttcg	agagtataga	accgttcatt	300
cttgctttgt	gtcccatcc	atctcttgaa	aaaatgtagt	ctttgaatgt	gtgaaaatct	360

agggacattc aatctagtct ttt

383

<210> 345
<211> 263
<212> DNA
<213> Homo sapien

<400> 345

cctcccccttc	cccttttgctg	gtgggaggag	ctcgtgtgct	ccttgccgc	ttactggaag	60
ggcggtttttc	agagctgcag	ggacaggggtg	agcagctgaa	gggctaggag	ggaagccggc	120
ccccgctctg	cagaagctgc	atttcagctg	aatctgtgtt	tcagcctcag	ttggttgcac	180
cgttagcccc	tctcctcccg	gatggctcatg	tttttgtcac	attagagaat	aaacagccac	240
acacacattt	ttttttttcc	ttt				263

<210> 346
<211> 132
<212> DNA
<213> Homo sapien

<400> 346

aaatccaaat	acaaaagcat	agtctctgca	agattttgtt	cttgaattt	cttgatattg	60
taattgatta	ttgataactg	tcatcatgaa	attatctctc	aataataaga	taaataaaact	120
agcatatgaa	tc					132

<210> 347
<211> 564
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(564)
<223> n = A,T,C or G

<400> 347

cctgggtatc	cagggagggt	ctgcagccct	gctgaagggc	cctaactaga	gttctagagt	60
ttctgattct	gtttctcagt	agtcctttta	gaggcttgct	atacttggtc	tgcttcaagg	120
aggctgacct	tctaattgat	gaagaatggg	atgcatttga	tctcaagacc	aaagacagat	180
gtcagtgggc	tgctctggcc	ctgggtgtgca	cggctgtggc	agctgttgat	gccagtgtcc	240
tctaactcoat	gctgtccttg	tgattaaaca	cctctatctc	ccttggaat	aagcacatac	300
aggcttaagc	tctaagatag	ataggtgttt	gtcctttttac	catcgagcta	cttcccataa	360
taaccacttt	gcattcaaca	ctcttcaccc	acctcccata	cgcaagggga	tgtggatact	420
tggcccaaag	taactggtgg	taggaatctt	agaaacaaga	ccacttatac	tgtctgtctg	480
aggnagaaga	taacagcagc	atctcgacca	gcctctgcct	taaaggaaat	ctttattaat	540
cacgtatggg	tcacaagata	attc				564

<210> 348
<211> 321
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(321)
<223> n = A,T,C or G

<400> 348

gcncatgaac	anggagcaac	ganaagagat	gtcgggctaa	gggcccgga	cgggcggcac	60
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ccatcctgcn acggaacacn ttcgggttnt ggttttgatt ngttcacctc tgtttatatg 120
cancatatttg ntcctectcc cccaccccag nccccaaactt catgcttntc ttccgcncctc 180
agccnccctg cctgtctctc gcggtgagtc antgaccacn gnttcccctg cangagccgc 240
cgggcgtgag acnngaccc tcnntgcata caccaggccg ggcccnngct ggctccccc 300
gnngccctgt gaaanagctg g 321

```

```

<210> 349
<211> 255
<212> DNA
<213> Homo sapien

```

```

<400> 349
ccatgacagt gaaggggctg ttaggaatat caacaccacc gaagcgcaca tagatcacat 60
atgtgcccgg cttggcagct gtgtagaaga tgtcataggt tccatcttca ttctcaatga 120
catcggcctc gccctcagtg ccatctgggg tcagaaccgt gcaggteact ttacccttcc 180
cggcagctct ggcatcaacc acaaagccta cttcttcgcc agttttcaca gtggaggcga 240
ttccaggacc cgtag 255

```

```

<210> 350
<211> 496
<212> DNA
<213> Homo sapien

```

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<220>
<221> misc_feature
<222> (1)...(496)
<223> n = A,T,C or G

```

```

<400> 350
gggcttattn gctcacaaaa tcattcnctt ttggaactat ggccaattga agctacacac 60
tgaatttatt aatacagcat taagtttctt tgtgtnaaaa aatctttgtn cncagtaata 120
aaaaaagata aggcaagatg cattaaacat gaaacottct ggctcttttc ctctgcgttt 180
ttacagagcc actgatgact atctgcaaca aaagagttaa gttctgatt ttccgtatca 240
agcatcttat gcctttgctg ttgtaagaat tctggccaag caccctgaag gacagatgct 300
ggtgatggnc ttggcactt atgctggcaa actgagcttc tttcccttga gtacttttgn 360
aatgtacaag tagaagaagt cacaagtata ggatggtctg gactacgccg gccaccacag 420
caatgaggtc aaagaagccc tcaaagnaga agcgnccaga tccagttgac aagatacaaa 480
gcacgataga ggccca 496

```

```

<210> 351
<211> 109
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(109)
<223> n = A,T,C or G

```

```

<400> 351
ccatagtga gcttgggaat gagtgttact gcagcatctg ggctgccanc cacagggaag 60
ggccaagccc catgtagccc cagtcactct gccacgcccc gcctcctgg 109

```

```

<210> 352
<211> 384
<212> DNA
<213> Homo sapien

```

```

<400> 352
ccttcgagag tgacctggct gccaccagg accgtgtgga gcagattgcc gccatcgcac      60
aggagctcaa tgagctggac tattatgact caccagtggt caacgcccgt tgccaaaaga      120
tctgtgacca gtgggacaat ctgggggccc taactcagaa gcgaagggaa gctctggagc      180
ggaccgagaa actgctggag accattgacc agctgtactt ggagtatgcc aagcgggctg      240
cacccttcaa caactggatg gagggggcca tggaggacct gcaggacacc ttcattgtgc      300
acaccattga ggagatccag ggactgacca cagcccatga gcagttcaag gccaccctcc      360
ctgatgccga caaggagcgc ctgg

```

```

<210> 353
<211> 345
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(345)
<223> n = A,T,C or G

```

```

<400> 353
ccttggtcag gatgaagtng gctgacacac cttagcttgg ntttgcttat tcaaaagana      60
aaataactac acatggaaat gaaactagct gaagcctttt cttgttttan caactgaaaa      120
ttgnacttgg nactttttgt gcttgaggag gccattttc tgcctggcag ggggcaggta      180
tgtgccctcc cgtgactccc tgctgtgtcc tgaggtgcat ttcctgttgn ncacacaang      240
gccangntcc attctccctc ccttttcacc agngccacan cctnntctgg aaaaangacc      300
agnggtcccg gaggaacca tttngtctct gcttgacag canag

```

```

<210> 354
<211> 712
<212> DNA
<213> Homo sapien

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<400> 354
ccatctacaa tagcatcaat ggtgccatca cccagttctc ttgcaacatc tcccacctca      60
gcagcctgat cgctcagcta gaagagaagc agcagcagcc caccagggag ctctgcagg      120
acattgggga cacattgagc agggctgaaa gaatcaggat tcctgaacct tggatcacac      180
ctccagattt gcaagagaaa atccacattt ttgccaaaa atgtctattt ttgacggaga      240
gtctaaagca gttcacagaa aaaatgcagt cagatatgga gaaaatccaa gaattaagag      300
aggctcagtt atactcagtg gacgtgactc tggaccacaga cacggcctac cccagcctga      360
tcctctctga taatctgcgg caagtgcggg acagttacct ccaacaggac ctgcctgaca      420
accccgagag gttcaatctg tttccctgtg tcttgggctc tccatgcttc atcgccggga      480
gacattattg ggaggtagag gtgggagata aagccaagtg gaccataggt gtctgtgaag      540
actcagtgtg cagaaaagggt ggagtaacct cagcccccca gaatggattc tgggcagtgt      600
ctttgtggtg tgggaaagaa tattgggctc ttacctcca atgactgcc taccctgcg      660
gaccccgctc cagcgggtgg gggattttct tggactatga tgctggggga gg

```

```

<210> 355
<211> 385
<212> DNA
<213> Homo sapien

```

```

<400> 355
cctcatagcc gcttagcaca gttacagaat gtctgaaggg gacagtgtgg gagaatccgt      60
ccatgggaaa ccttcgggtg tgtacagatt tttcacaaga cttggacaga tttatcagtc      120
ctggctagac aagtccacac cctacacggc tgtgcgatgg gtcgtgacac tgggcctgag      180
ctttgtctac atgattcgag tttacctgct gcagggttgg tacattgtga cctatgcctt      240
ggggatctac catctaaatc ttttcatagc ttttctttct ccaaaagtgg atccttcctt      300
aatggaagac tcagatgacg gtccttcgct acccaccaaa cagaacgagg aattccgccc      360

```

cttcattcga aggcctcccag agttt

385

<210> 356
 <211> 347
 <212> DNA
 <213> Homo sapien

<400> 356

aaatgagata aagaaagtct ccttttgttt ttagatggaa aagaaagcac aagttttttc	60
tacctgtgaa tgaactttgg tgacctatat gtgccattca tgcagcattt ttgttcatat	120
tggcttagaa ttcagtgcac gaatatcatt acattcttat atctaacatt cctagttagc	180
tttgattcaa aatatacaaa atctgatata tgaatacttt gctagattaa tgacttgatc	240
atctttggaa tgagtaggca agacgatttt tacctattat ttctatgttg tgggtaaatgt	300
taaaactaaa tacagatgat aataattgct atttcacagt gatgttt	347

<210> 357
 <211> 313
 <212> DNA
 <213> Homo sapien

<400> 357

aaagtaatca acctctctgt ccttccatta gtctggatcg tctaaagatt gttttatattt	60
tagaggtcga tccggctcaga tgtagtgat gtgaaatttc aggccaggcg tgacgtcagc	120
gtggcatttg aaacagctcc atgttgccct tagtgctgtc tgaccgaagc ctgtctgtcc	180
tcagatataa agatgaagcg cagctgtata aagaagagca cctgaggaat cggcagcacc	240
ctcactgcta cggttcagtac atgatcgcca tcatcaacaa ctgccagacc ttcaaggaat	300
ccatagtcag ttt	313

<210> 358
 <211> 403
 <212> DNA
 <213> Homo sapien

<400> 358

aaaaagaagg acttaggggtg tcgttttcac atatgacaat gttgcattta tgatgcagtt	60
tcaagtacca aaaggttgaa ttgatgatgc agttttcata tatcgagatg ttcgctcgtg	120
cagtactgtt ggtaaataa caatttatgt ggattttgca tgtaatacac agtgagacac	180
agtaatttta tctaaattac agtgcagttt agttaatcta ttaatactga ctcagtgtct	240
gccttttaaat ataaatgata tggtgaaaac ttaaggaagc aaatgctaca tatatgcaat	300
ataaaatagt aatgtgatgc tgatgctgtt aaccaagggt cagaataaat aagcaaaatg	360
ccaaaagggt tcttaattga aatgaaaatt taattttgtt ttt	403

<210> 359
 <211> 411
 <212> DNA
 <213> Homo sapien

<400> 359

aaataaatac ttagaacacg acttggtctc tacaagcatc tggactctag gtctcagtac	60
tggagtgtct caccatggg cccacgcag ggacgccag gtccctccc accccgtgat	120
caagacacgg aatcggtgc cgatggttg atcgcaatgc gcccttttc tagagccttc	180
cccgccatc tacaggcagg atgaggctgg gaaaaagaca actggaattt ctgaagggtt	240
gatggtccgc acggttgagg attctacgtg gttctcttgg ttcccttgtt gtgtgtgtgt	300
gtggaggagg ccgaggccct tagatcacct tcttgagctc gtctgacagg accagcacga	360
aggcgcccc catgccccgc aggacgttgg accacgcacc cttgaagaag g	411

<210> 360
 <211> 378

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(378)
<223> n = A,T,C or G

<400> 360
cctcttcagg ggcccgagcc agggacaggg ccttggtttc cttctccctg gcttctgcct 60
cagctctgtc cctctcatcc gcgtatttgg aagagatgtt tttctcctcg gctaacaact 120
gatcaaattt cctctgcttc ttttccaggt tggacacgag ttgccgctgg ttgtccaaat 180
caacaaccag gtcgtccagc tcctgctgaa gcctgttctt ggtcttttcc agtttatcat 240
aagcgccgc cttctcctcg tactgctggg tgaggntctc gatctccttc tggaacctct 300
tcttccctc ttccagagct tccacgngc tggcaaagtc ctgcagcttc ttcttcgagt 360
cggagagctg gatgttga 378

<210> 361
<211> 372
<212> DNA
<213> Homo sapien

<400> 361
aaatactggg ggccattaag agtggatgta gctaagagct tagctaacat tgccttttca 60
ctctattttt ctcagatatt gtaagcattc tgtttttcaa tattgtagtt aatttttttg 120
ctttcaacag cagccctagt aatggtggag ttgttaatta atgtgtatat tgtactgaat 180
ttctgtcagt taaggggttc actgctttgg tggaaattgg tggaaattgc tagcaggttc 240
cacgatgttt atttttttct ccatgttgta tatcattacc atttcacata cgcgtttcta 300
ttttcttccc tctctcctcg atctccttaa aaatgaatct agagttgggtg gctttttccc 360
cctctctttt gg 372

<210> 362
<211> 544
<212> DNA
<213> Homo sapien

<400> 362
cctgagtcac ctagcatagg gttgcagcaa gccctggatt cagagtgtta aacagaggct 60
tgccctcttc aggacaacag ttccaattcc aaggagccta cctgaggtcc ctactctcac 120
tggggtcccc aggatgaaaa cgacaatgtg cctttttatt attatttatt tgggtggctc 180
gtgttattta agagatcaaa tgtataacca cctagctctt ttcacctgac ttagtaataa 240
ctcactacta ctggttttga tgcctgggtt gtgacttcta ctgaccgcta gataaacgtg 300
tgctgtccc ccagggtgtg ggaataatct acaatctgtc caaccagaaa agaattgtgtg 360
tgtttgagca gcattgacac atatctactt tgataagaga cttcctgatt ctctaggtcg 420
gttcgtggtt atccattgt ggaaattcat cttgaatccc attgtcctat agtcctagca 480
ataagagaaa tttcctcaag tttccatgtg cggttctcct agctgcagca atactttgac 540
attt 544

<210> 363
<211> 328
<212> DNA
<213> Homo sapien

<400> 363
aaactgggtta tgacaaaagc ctttagttgt gtttcttgaa ctataaagaa aacaaatttt 60
ggcagtcctt aagtatatat agcttaaaat ataattttta gcatttggca ccatatgtat 120
gccattatat ttgattttgc attactgttt cacaatgaag ctttctttaa ggctttgatt 180
tttatgatta tgaaagaaat aaggcacaac cacagttttt ctttctttaa tttcatcact 240

gttgatgtgg ttcttttgtg ttaaaaaaaa aaagtgaac tatcaaaact aaaaaattat 300
agagtaatat tgccgttctg ctgatttt 328

<210> 364
<211> 569
<212> DNA
<213> Homo sapien

<400> 364
cctgggcacc tctttgcttg aaatatggca agacttggaa aaatgtttgc ccttagaatc 60
tatctcacta ctttagttag ttgtctcctt tgggcctggg cacagttctg gccctgatct 120
ggaacagact cccttttcta aaactgaact tgaccacatc aaaagtttgt aaaacaatct 180
ccatggtaat taaacttgca ttcaacacca tatggtaaca gaagatggca aaggataaga 240
ttcagatctt agatctttcc aagtagggca tgttagatga tagaaggatt agttgcaagc 300
tggatctgag ctgaggcttg ggcataaggg aaactgtctc ccatgtggtt tggaagagtt 360
aggggctccc tgagctctat tgtgaactat acgggtttca tccaaggaat ggtatgatgt 420
gggcataaaa ccattcttca gacaactgaa gatgggtccc ttctgtagcc agaaacacta 480
gctgtcctgc attgtccatt tccttttagcc ccaggcgggc ctgtgtgtac agggaggtct 540
cctgtaaggg aatggtttcc ttggcttgg 569

<210> 365
<211> 151
<212> DNA
<213> Homo sapien

<400> 365
aaaaaaaa atccttttat tatggaattt gtcaaacaca cacacaagca taacaaaccc 60
ctaggtaccc atctccaagt tttagccctt attataattt catcttcagt gttttattat 120
ccacttcctc tctctctatc ttttagtattt t 151

<210> 366
<211> 508
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(508)
<223> n = A,T,C or G

<400> 366
agtataaaga tatattccat aaaagagttt ggcagtcaaa ganaagcatc gcacttccga 60
aaaacacaag cattcttctc ctagtctaca gagaattgng taaaaaaaa aaaaaatcat 120
catcaacagc cncantnta cncacacta gaatgtacac tccggcaagt aaattaaggn 180
tgaggtccat ccctgaacga tganaagnng tctgagctat ggcaaagngt tanaaagtag 240
cccagctana caaatgcccc agctatcccc aggggagtta ttcagtactt aanacttcat 300
ttccaananc agccccggaa aagccctgac aggaaggggg gaccagngat caccgatntc 360
ccattagggg cgncaccaa aaacaaaatg cctggagctt ntgagcagct gcagcctggg 420
gttgtggcta ggcncnggn gnggttgcaa aaaaacggct gnttccgggg agaggcaaat 480
ggcaggccag ccagccctgg gtacatgg 508

<210> 367
<211> 382
<212> DNA
<213> Homo sapien

<400> 367
cctgagcggc tagtctttaa gatgcgcttc tatcgtttgc tgcaaatccg agcagaagcc 60


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ctcctggcgg caggcagcca tgtgatcatt ctgggtgacc tgaatacagc ccaccgcccc 120
attgaccact gggatgcagt caacctggaa tgctttgaag aggaccagc gcgcaagtgg 180
atggacagct tgctcagtaa cttgggggtgc cagtctgcct ctcattgtagg gcccttcac 240
gatagctacc gctgcttcca accaaagcag gagggggcct tcacctgctg gtcagcagtc 300
actggcgccc gccatctcaa ctatggctcc cggcttgact atgtgctggg ggacaggacc 360
ctggcatag acacctttca gg 382

```

```

<210> 368
<211> 174
<212> DNA
<213> Homo sapien

```

```

<400> 368
ccttctccct ctttgacaag gatggagatg gcactatcac caccaaggag ttggggacag 60
tgatgagatc cctgggacag aaccccactg aagcagagct gcaggatatg atcaatgagg 120
tggatgcaga tgggaacggg accattgact tcccggagtt cctgaccatg atgg 174

```

```

<210> 369
<211> 216
<212> DNA
<213> Homo sapien

```

```

<400> 369
aaatctcatg ggttctatta aaaaaatata tatatagggc cccaatccat tgccatcaaa 60
ttgcccttgg acttttccaa ggtatattat ggggttttat gcaaaattcc aagctaccat 120
gtaacttttt ttaaccattt aacaaggagg gggaactgtt tcctaccttc tttacatgtt 180
gtgcattgtt gtggtccaga aatgcctaac cttttt 216

```

```

<210> 370
<211> 344
<212> DNA
<213> Homo sapien

```

```

<400> 370
ccttggtcag gatgaagttg gctgacacag cttagcttgg ttttgcttat tcaaaagaga 60
aaataactac acatggaaat gaaactagct gaagcctttt cttgttttag caactgaaaa 120
ttgtacttgg tcacttttgt gcttgaggag gccattttc tgccctggcag ggggcaggtc 180
tgtgccctcc cgtgactcc tgetgtgtcc tgagggtcat ttctgttgt acacacaagg 240
gccaggctcc attctccctc cttttccacc agtgccacag cctcgtctgg aaaaaggacc 300
aggggtcccg gaggaaccca tttgtgctct gcttggacag cagg 344

```

```

<210> 371
<211> 741
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(741)
<223> n = A,T,C or G

```

```

<400> 371
aaattacata tctaattgtg tgatttggtt aatgcccatt tcttcatcta agtgctaagt 60
gctaagtgtg gcagtttggt ccctgctaca ctccaaggca caaaggagtt caaggaatgt 120
gcaatggaaa tcagtttagt gaatgtgtta ggaaccttcc ctttaataaa gctggatccc 180
acactagccc ctacaccctc tcatcaccaa atattcctgc ttctctcac ctgcacttgc 240
tgttctctcc tctgccacac aaatctacct ctcaagccta ggtccacct gcttcatgac 300
aactttccag actattccag aacctttaac catctctgac ctctcatcag atctatgttg 360

```

```

tacataaacac caattaatga gatcattact gctttatgct ctaattgctt cctgtattca 420
aaatcttctc tccaaccaca taatgactcc ctaaacttct cttgtatttt ccaatgcctt 480
gtacaagcac agaactggtc aatcaataaa tactcactgg ttatttgagg aaaaaatggt 540
gccaaagcacc atctttatca gaaaataaat caattcttct aaacttggag aaatcaccct 600
attcctagta tgtgatctta attagaacaa ttcagattga gaangngaca gcatgctggc 660
agtcctcaga gcctcgtctt gctctcggna cctccctgcc tgggctccca ctttggtggc 720
atttgaggag cccttcagcc t 741

```

```

<210> 372
<211> 218
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(218)
<223> n = A,T,C or G

```

```

<400> 372
ccgccagtgt gctggaattc gcccttggcc gcccgggcag gtaccacaac agcaggnctg 60
agtgaagaaat ctaccacctt ctacagtagc ccagatcac cggacacaac actctcacct 120
gccagcacga caagctcagg cgtcagtga gaatccacca cctcccacag ccgaccaggc 180
tcaacgcaca caacagcatt ccctggcagt accttggg 218

```

```

<210> 373
<211> 168
<212> DNA
<213> Homo sapien

```

```

<400> 373
actgctaggg aatgctgttg tgtgcattga gcctggctgg ctgtgggagg tgggtggattc 60
ttcactgacg cctgagcttg tcgtgctggc aggtgagagt gttgtgtccg gtgatctggg 120
gctactgtag aagggtgtag atttctcact caggcctgct gttgtggt 168

```

```

<210> 374
<211> 154
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(154)
<223> n = A,T,C or G

```

```

<400> 374
tgagaaatct accaccttct acagngagcc ccanatcacc ggacacaaca ctctcacctg 60
ccagcacgac aagctcaggc gtcagtgaag aatccaccac ctcccacagc cgaccaggct 120
caacgcacac aacagcattc cctggcagta cctc 154

```

```

<210> 375
<211> 275
<212> DNA
<213> Homo sapien

```

```

<400> 375
actgccaggg gacagtgtg tgtcagttga acctgggctg ctgtgggaag ttgttgattc 60
ctgactgggg cctgaggtgg tgggtgctggc aggtaacagt gttgtatccg ttgagcctgg 120

```

gctgctgtgg	gaagttgtag	aatgccgact	gaggcctggc	gtggtggtgc	tgtcagggaa	180
tgctgttgtg	tgcgttgagc	ctggctgggt	gtgggaggtg	gtggattcct	cactgacgcc	240
tgagcttgtc	gtgctggcag	gtgagagtgt	tgtgg			275

<210> 376
 <211> 191
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(191)
 <223> n = A,T,C or G

<400> 376						
actgccaggg	gacagtgtg	tgctcagttga	acctgagctg	ctgtgggaag	ttgttgattc	60
ctgactggag	cctgaggtgg	tgggtctggc	aggtaacagt	gttgtatccg	ttgagcctgg	120
gctgctgtgg	gaagttgtag	aatgccgact	gaggcctggc	gtggtggtgc	tgntagggaa	180
tgctgctagc	g					191

<210> 377
 <211> 476
 <212> DNA
 <213> Homo sapien

<400> 377						
ccgccagtgt	gctggaattc	gcccttggcc	gcccgggcag	gtacatttcc	ttgtagactc	60
tgtaatttc	ctgcagctcc	tgggtggttc	tggagcagat	gatctcaatg	agagagtcct	120
cgtcggttcc	cagccccttc	atggaagctt	ttagctcaga	agcgtcatac	tgagcaggtg	180
tcttcaatag	gccccaaatc	accgtctcca	ggtggccaga	taaggctgac	ttcagtgctg	240
atgcaagttc	ctttttggtc	cttctctggt	aggcgaaggc	aatatcctgt	ctctgtgcat	300
tgctgcggtt	ggtcaaaaatg	ttgacaatgg	tgacctcatc	cacacctttg	gtcttgatgg	360
ctgtttcaat	gttcaaagca	tcccgtctcag	catcaaagtt	agtataggct	ttgacagacc	420
catatgcact	tgggggtgta	gagtgatcac	cctccaagcc	gagcttgcac	aggatt	476

<210> 378
 <211> 455
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(455)
 <223> n = A,T,C or G

<400> 378						
agtgtgctgg	aattgcgcct	tggccgcccg	ggcagggtaca	cateccatct	tcaaatttaa	60
aatcatattg	tcagttgtcc	aaagcagctt	gaatttaaag	tttgtgctat	aaaattgtgc	120
aaatatgtta	aggattgaga	cccaccaatg	cactactgta	atatttcgct	tcctaaattt	180
cttccacctc	cagataatag	acaacaagtc	tgagaaacta	aggctaacca	aacttagata	240
taaatcctac	caataaaatt	tttcagtttt	aagttttaca	gtttgattta	aaaacaaaac	300
agaacaaat	ttcaaaaata	atcacatctt	ctcttaaaac	ttggcaaac	cttccctaac	360
tgccaagtn	tgagcataca	ctgccactgg	ctttagatac	tccaattaaa	tgactactc	420
tttactggt	ctgaatgaag	tatggtgaaa	caagc			455

<210> 379
 <211> 297
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(297)

<223> n = A,T,C or G

<400> 379

agctcggatc	cctagnacgg	cgcgcagtgt	gctggaattc	gcccttagcg	gcggcccggg	60
caggtacaaa	gaatccttag	acgccatact	gagttttaag	ttccttaatt	cctaatttaa	120
ggcttctagt	gaagcctcct	cacagtaggc	ttcactaggc	ccacagtgcc	cctagacctc	180
tgacaatccc	accctagaca	gactttattg	caaaatgcgc	ctgaagaggc	agatgattcc	240
caagagaact	caccaaactca	agacaaatgt	cctagatctc	tagtgtgna	gaactat	297

<210> 380

<211> 144

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(144)

<223> n = A,T,C or G

<400> 380

actttgctga	aaattctttt	tcccagggtc	tataaaacat	taatttggtt	ttatatattta	60
ctattttttt	gngttttttt	gttttttaaat	caataagtaa	tctaggacta	gcattatggt	120
tgctagacct	ggcatttgct	cggc				144

<210> 381

<211> 424

<212> DNA

<213> Homo sapien

<400> 381

actcttgaat	acaagttttct	gataccactg	cactgtctga	gaatttccaa	aactttaatg	60
aactaactga	cagcttcatg	aaactgtcca	ccaagatcaa	gcagagaaaa	taattaattt	120
catgggacta	aatgaactaa	tgaggataat	attttcataa	ttttttattt	gaaattttgc	180
tgattcttta	aatgtcttgt	ttcccagatt	tcaggaaact	ttttttcttt	taagctatcc	240
acagcttaca	gcaatttgat	aaaatatact	tttgtgaaca	aaaattgaga	catttacatt	300
ttctccctat	gtggtcgctc	cagacttggg	aaactattca	tgaatattta	tattgtatgg	360
taatatagtt	attgcacaag	ttcaataaaa	atctgctctt	tgtataacag	aatacatttg	420
aaaa						424

<210> 382

<211> 408

<212> DNA

<213> Homo sapien

<400> 382

actcttgaat	acaagttttct	gataccactg	cactgtctga	gaatttccaa	aactttaatg	60
aactaactga	cagcttcatg	aaactgtcca	ccaagatcaa	gcagagaaaa	taattaattt	120
catgggacta	aatgaactaa	tgaggataat	attttcataa	ttttttattt	gaaattttgc	180
tgattcttta	aatgtcttgt	ttcccagatt	tcaggaaact	ttttttcttt	taagctatcc	240
acagcttaca	gcaatttgat	aaaatatact	tttgtgaaca	aaaattgaga	catttacatt	300
ttctccctat	gtggtcgctc	cagacttggg	aaactattca	tgaatattta	tattgtatgg	360
taatatagtt	attgcacaag	ttcaataaaa	atctgctctt	tgtatgac		408

<210> 383
 <211> 455
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(455)
 <223> n = A,T,C or G

<400> 383
 actcttgaat acaagtttct gataccactg cactgtctga gaatttccaa aactttaatg 60
 aactaactgn cnncttoatg aaactgtcca ccaagatcaa gcagagaaaa taattaattt 120
 catgggacta aatgaactaa tgaggataat attttcataa ttttttattt gaaattttgc 180
 tganncttta aatgtcttgg ttcccagatt tcaggaaact ttttttcttt taagctatcc 240
 acagcttata gcaatttgat aaaatatact tttgtgaaca aaaattgaga catttacatt 300
 ttctccctat gtggtcgctc cagacttggn aaactattca tgaatattta tattgtatgg 360
 taatatagtt attgcacaag ttcaataaaa atctgctctt tgtataacag aatacatttg 420
 aaaacattgg ttatattacc aagactttga ctaga 455

<210> 384
 <211> 376
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(376)
 <223> n = A,T,C or G

<400> 384
 actcttgaat acaaggttct gatatacactg cactgtctga gaatttccaa aactttaatg 60
 aactaactga cagcttcatg aaactgtcca ccaagatcaa gcagagaaaa taattaattt 120
 catgggacta aatgaactaa tgaggataat attttcataa ttttttattt gaaattttgc 180
 tgattcttta aatgtcttgg ttcccagatt tcaggaaact ttttttcttt ttaagctatc 240
 cacagcttac agcaatttga taaaatatac ttttgnagac aaaaattgag acatttacat 300
 tttctcccta tgtgggcgct ccagacttgg gaaactattc atgaatattt atattgnatg 360
 ggaatatagc attgcc 376

<210> 385
 <211> 422
 <212> DNA
 <213> Homo sapien

<400> 385
 acctgtgggt ttattaccta tgggtttata tcttcaaata cgacattcta gtcaaagtct 60
 tggtaatata accaatgttt tcaaagtgtat tctgtcatatc aaagagcaga tttttattga 120
 acttgtgcaa taactatatt accatataat ataaatattc atgaatagtt tcccaagtct 180
 ggagcgacca catagggaga aaatgtaaat gtctcaattt ttgttcacaa aagtatattt 240
 tatcaaattg ctgtaagctg tggatagctt aaaagaaaaa aagtttctctg aaatctggga 300
 aacaagacat ttaaagaatc agcaaaaattt caaataaaaa attatgaaaa tattatcctc 360
 attagttcat ttagtcccat gaaattaatt attttctctg cttgatcttg gtggacagtt 420
 tc 422

<210> 386
 <211> 313
 <212> DNA
 <213> Homo sapien

<400> 386
 caagtaggtc tacaagagcg tacttcccct atcatagaag agcttatcac ctttcatgat 60
 cagccctca taatcatttt cttatctgc ttcctagtc tgtatgccct tttcctaaca 120
 ctcaacaac aactaactaa tactaacatc tcagacgctc aggaaataga aaccgtctga 180
 actatcctgc ccgccatcat cctagtcctc atcgccctcc catccctacg catcctttac 240
 ataacagacg aggtcaacga tccctccctt accatcaaat caattggcca ccaatggtac 300
 tgaacctacg agt 313

<210> 387
 <211> 236
 <212> DNA
 <213> Homo sapien

<400> 387
 cgccctcata atcattttcc ttatctgctt cctagtcctg tatgcccttt tctaactact 60
 cacaacaaaa ctaactaata ctaacatctc agacgctcag gaaatagaaa ccgtctgaac 120
 tatcctgccc gccatcatcc tagtcctcat cgccctccca tccctacgca tccctttacat 180
 aacagacgag gtcaacgac cctcccttac catcaaatca attggccacc aatggt 236

<210> 388
 <211> 195
 <212> DNA
 <213> Homo sapien

<400> 388
 acgccctttt cctaactctc acaacaaaac taactaatac taacatctca gacgctcagg 60
 aaatagaaac cgtctgaact atcctgcccg ccatcatcct agtcctcacc gccctcccat 120
 ccctacgcat cctttacata acagacgagg tcaacgatcc ctcccttacc atcaaatcaa 180
 ttggccacca atggt 195

<210> 389
 <211> 183
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(183)
 <223> n = A,T,C or G

<400> 389
 taacactcac aacaaaacta actaatacta nnatctcaga cgctcaggaa atagaaaccn 60
 cctgaactat cctgcccgcc atcatcctag tctcctcgc cctcccatcc ctacncatcc 120
 ttacataac agacgaggtc aacgatccct cccttaccat caaatcaatt ggccaccaat 180
 ggt 183

<210> 390
 <211> 473
 <212> DNA
 <213> Homo sapien

<400> 390
 acaaagcagc aactgcaata ctcaaggcta aaacattaga aaagcatttg tgtgacaggt 60
 atattacagt attatcaaaa tattacattt tcagacttac ttagcagata atcatccacc 120
 agagcttaaa tctttaaatt atttccatag tcttaaaaaa tatgtaatgt cagaatgcat 180
 ataaaaagaa tgtaaaaagga aacctaaaat acaaatggaa taatgtaaca aataaatatt 240
 tgatttcagt aactgttaat aatcagctca acaccaccat tctctctaaa ctcaatttaa 300

```

ttcttatagg aataatgaac tgtcaaatgc catggcataa ttattttatt ccaagctatc 360
atcaatgatt agaactaaaa aaaatttggc ataaaaaaat cacaattcag cataaataaa 420
gctattttta gcttcaacac tagctagcat ctctaagaat tgttgaaata agt 473

```

```

<210> 391
<211> 216
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(216)
<223> n = A,T,C or G

```

```

<400> 391
atttgatatt taggtttcct ttacattct ttttatatgc nntctgacat tacatatatt 60
ttaagactat ggaaataatt taaagattta agctctggg gatgattatc tgctaagtaa 120
gtctgaaaat gtaatatatt gataatactg taatatacct gtcacacaaa tgcttttcta 180
atgttttaac cttgagtatt gcagttgctg ctttgt 216

```

```

<210> 392
<211> 98
<212> DNA
<213> Homo sapien

```

```

<400> 392
acttatttca acaattctta gagatgctag ctagtgttga agctaaaaat agctttattt 60
atgctgaatt gtgatttttt tatgccaaat ttttttaa 98

```

```

<210> 393
<211> 397
<212> DNA
<213> Homo sapien

```

```

<400> 393
tgccgatata ctctagatga agttttacat tgttgagcta ttgctgttct cttgggaact 60
gaactcactt tcctcctgag gctttggatt tgacattgca ttgaccttt tatgtagtaa 120
ttgacatgtg ccagggcaat gatgaatgag aatctacccc cagatccaag catcctgagc 180
aactcttgat tatccatatt gagtcaaatg gtaggcattt cctatcacct gtttccattc 240
aacaagagca ctacattcat ttagctaaac ggattccaaa gagtagaatt gcattgaccg 300
cgactaattt caaatgctt tttattatta ttatttttta gacagtctca ctttgtcgcc 360
caggccggag tgcagtggg cgatctcaga tcagtgt 397

```

```

<210> 394
<211> 373
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(373)
<223> n = A,T,C or G

```

```

<400> 394
ttacattggt gagctattgc tgttctcttg ggaactgaac tcactttcct cctgaggctt 60
tggatttgac attgcatttg accttttatg tagtaattga catgtgccag ggcaatgatg 120
aatgagaatc taccocccaga tccaagcatc ctgagcaact cttgattatc catattgagt 180
caaatggtag gcatttccta tcacctgttt ccattcaaca agagcactac attcatttag 240

```

```

ctaaacggat tccaaagagt agaattgcat tgaccacgac tantttcaaa atgcttttta 300
ttattattat tttttagaca gtctcacttt gtcgcccagg ccggagtga gtggtgcgat 360
ctcagatcag tgt 373

```

```

<210> 395
<211> 411
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(411)
<223> n = A,T,C or G

```

```

<400> 395
actgatcatt ctatttcccc ctctattgat cccacactcc aaatatctca tcaacaaccg 60
actaatcacc acccaacaat gactaatcaa actaacctca aaacaaatga taaccataca 120
caacactaaa ggacgaacct gatctcttat actagtatcc ttaatcattt ttattgccac 180
aactaacctc ctcggactcc tgctcactc atttacacca accaccaat tatctataaa 240
cctagccatg gccatcccct tatgagcggg cgcagtgatt ataggctttc gctctaagat 300
taaaaatgcc ctagcccact tcttacngca aggcacacct acaccctta tcccatact 360
agttattatc gaaaccatca gcctactcat tcaaccaata gcctggccg t 411

```

```

<210> 396
<211> 411
<212> DNA
<213> Homo sapien

```

```

<400> 396
actgatcatt ctatttcccc ctctattgat cccacactcc aaatatctca tcaacaaccg 60
actaattacc acccaacaat gactaatcaa actaacctca aaacaaatga tagccataca 120
caacactaaa ggacgaacct gatctcttat actagtatcc ttaatcattt ttattgccac 180
aactaacctc ctcggactcc tgctcactc atttacacca accaccaac tatctataaa 240
cctagccatg gccatcccct tatgagcggg cgcagtgatt ataggctttc gctctaagat 300
taaaaatgcc ctagcccact tcttaccaca aggcacacct acaccctta tcccatact 360
agttattatc gaaaccatca gcctactcat tcaaccaata gcctggccg t 411

```

```

<210> 397
<211> 351
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(351)
<223> n = A,T,C or G

```

```

<400> 397
ngccgangta caaaaaaaag cacattccta gaaaaaggta ttggcaaata gtaaaaatgg 60
gaggtcaaaa ncaaaaaaaa aaaaaacaaa acnaaaaaaa gaaaaaacca acaattcttc 120
aattcagtg gcaaacatta tataaaaaata gaaatactaa ctctacaggc agtatttcct 180
gataaattat ttaaatagca tatctacnca atctgagata tctattccaa tggcaatgag 240
aaaataattt ataaaaataa agcaatggta taccanatga tagaaaaaaa cataactttc 300
agaaattgta tttaacattt caatgctatt tccttattgn gaatncttct c 351

```

```

<210> 398
<211> 363
<212> DNA

```


<213> Homo sapien

<400> 398

acaaaaaaaa	gcacattcct	agaaaaaggt	attggcaa	at	agtaaaatg	ggaggtcaaa	60
agcaaaaaaa	aaaaaaacaa	aacaaaaaaa	agaaaaaac	aacaattctt	caattcagtg		120
tgcaaacatt	atataaaaa	agaaatacta	actctacagg	cagtatttcc	tgataaatta		180
tttaaatagc	atatctacac	aatctgagat	atctattcca	atggcaatga	gaaaataatt		240
tataaaaaata	aagcaatggt	ataccagatg	atagaaaaaa	acataacttt	cagaaattgt		300
atttaacatt	tcaatgctat	ttccttattg	ggaatacttc	tctgcagagt	ttttatgcta		360
tgt							363

<210> 399

<211> 360

<212> DNA

<213> Homo sapien

<400> 399

actgtttcct	cgtggttcag	gggtgtgcat	gaaggctctt	aggagagcaa	acacctgttc	60
ctattctgta	tgtccctccc	tcatttcaaa	tgagagtaac	caattgagta	aaataaccaa	120
ataaccattg	ccccaccatg	aacatggggc	ttgggaagac	agtcctacaa	tcttcatcat	180
atatttaggt	ttttaggcca	gccagctctt	ttttccaaa	gctttctttt	gaataaccgc	240
cggggcgggc	cctaagggcg	aattctgcag	atatccatca	cactggcggc	cgctcgagca	300
tgcctctaga	gggcccaatt	cgccctatag	tgagtcgtat	tacaattcac	tgcccgctcg	360

<210> 400

<211> 87

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(87)

<223> n = A,T,C or G

<400> 400

ctgcacatat	cnattacact	ggcgggcgct	cgagcatgca	tgnagagggc	ccaattctcc	60
ctatataggag	tggaattaca	atncnct				87

<210> 401

<211> 328

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(328)

<223> n = A,T,C or G

<400> 401

accagggac	acaaacactc	tgccaggaa	aaccagagac	ctttgttcac	ttgtttatct	60
gctgaccttc	cttccactat	tgccctatga	ccctgccaaa	tccccctctg	cgagaaacac	120
ccaagaatga	tcaataaaaa	ataaaataaa	attaaattaa	aaaaaaaaaa	agagaggaac	180
ccacaaaaaa	aaaaaaaaag	aaagtntata	aaataaaata	ttgaagtcct	ttcccatata	240
aaaaaaaaaa	aagaaaaagc	acggactctt	tcctccagtt	ctgatgtgat	tatctctgga	300
aggcattttc	tcctcctctt	ccctcccc				328

<210> 402

<211> 268

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(268)

<223> n = A,T,C or G

<400> 402

nacataatga	caacatcttc	actagactga	gtgttcaagg	atttgagatg	attcgctatt	60
catcacaccc	cgaagattga	gatocactgt	atttacacaa	agcaaagcca	tgtcagcaag	120
ggactgtcaa	cctgattctg	agaacataaa	cattcaaaat	ttattttcca	gtgttccttt	180
ttggaaaacca	acaacacatc	tttaatacct	acaçacacac	acatctntac	ctttaaaaaa	240
aaaaaaaaag	tgnaacttca	cagatagt				268

<210> 403

<211> 538

<212> DNA

<213> Homo sapien

<400> 403

acagtgatag	ctccccctgg	gcaataacaat	acaagaacag	tgggttttgt	caaattggaa	60
caaggaaaca	gaaccacaga	aataaataca	ttggttaaca	tcagattagt	tcaggttact	120
tttttgtaaa	agttaaagta	gaggggactt	ctgtattatg	ctaaactcaag	tagactggaa	180
tctcctgtgt	tctttttttt	tttaaattgg	ttttaatttt	ttttaattgg	atctatcttc	240
ttccttaaca	tttcagttgg	agtatgtagc	atttagcacc	actggctcaa	tgcgctcacc	300
taggtgagag	tgtgacaaaa	tcttaaagca	ttagtgtat	tatcagttac	caccatttgg	360
ggcttttatc	cttcatgggt	tatgatgttc	tcctgatgac	acatttctct	gagttttgta	420
attccagcca	aagagagacc	attcactatt	tgatggctgg	ctgcatgcag	acatttaaag	480
cttttagaga	atacactaca	ccagggagta	tgactactag	tatgactatt	aggagggt	538

<210> 404

<211> 310

<212> DNA

<213> Homo sapien

<400> 404

tttttttata	gatacaattg	gctttttattt	gtgattcatg	agtcagggca	gtttccattc	60
tgcaaaatat	agtgatagct	cctactgggc	aatacaacag	tagaacagtg	ggttttgtaa	120
aatgggaatc	caggaacaga	agaatataaa	taaattgatt	taaataaaact	gattgggttaa	180
tttcagaata	cttcatatta	cttttttcta	agagttaaag	cagaaaggac	tttcttactg	240
tgctgactca	gacagcctgg	actctcatgt	ttttaggaaa	attttgtctg	ttctgggac	300
tacctgcttc						310

<210> 405

<211> 559

<212> DNA

<213> Homo sapien

<400> 405

acaaatcaca	attattaact	cactggtagg	gcagtgatga	tcaaaccaat	tgcatctcatc	60
catgctgtaa	tgttctctct	tggcactaaa	ggctgactgc	agccggcaaa	aaagaatgta	120
agtatgaatt	tataaaaaca	tttttagatg	ctgacaacgg	atcttatttt	taaagaatat	180
gtctaattca	gaggatcgac	aactaatcca	tttcaataaa	acaatgggga	attttttatt	240
gaataaaaa	gtaatatgca	taaaaactca	agaaggcttt	ttaaaaatac	ttcctcccca	300
atcattatcc	catacttcat	gctaattttt	aaaagaatct	tgaaatcttg	aaaacaagat	360
gaagagaatc	ttgttttaag	tgacaagtta	acattattcc	tatattaaat	gtcaaaactgc	420
tattaatgag	tagaagtagg	aacaaacccg	gatcttagga	tcctgtccag	ggctcattcc	480

ataactocta tatcacaaag acaagatctg gaaccagaaa acagtcacatca tccaatgtgc 540
atcagccttg cggcaacag 559

<210> 406
<211> 427
<212> DNA
<213> Homo sapien

<400> 406
acaacagaat atctcgggaa tggactcaga agtatgccat gtgatgctac cttaaagtca 60
gaataacctg cattatagct ggaataaact tttaaattact gttccttttt tgattttctt 120
atccggtctg tcccctatca gacctcatct tttttaattt tatTTTTTgt ttacctccct 180
ccattcattc acatgctcat ctgagaagac ttaagttctt ccagcttttg acaataactg 240
cttttagaaa ctgtaaagta gttacaagag aacagttgcc caagactcag aattttttaa 300
aaaaaaaaatg gagcatgtgt attatgtggc caatgtcttc actctaactt ggttatgaga 360
ctaaaaccat tcctcactgc tctaacatgc tgaagaaatc atctgagggg gagggagatg 420
gatgctc 427

<210> 407
<211> 419
<212> DNA
<213> Homo sapien

<400> 407
acaatttgta gttgtttcca ggtttggcta ataatcattc cttaacctag aattcagatg 60
atcctgggaat taaggcaggt cagaggactg taatgataga attaaattag tgtcactaaa 120
aactgtccca aagtgtctgct tcctaataagg aattcattaa cctaaaacaa gatgttacta 180
ttatatogat agactatgaa tgctatttct agaaaaagtc tagtgccaaa tttgtcttat 240
taaatataaaa caatgtagga gcagcttttc ttctagtttg atgtcattta agaattacta 300
acacagtggc agtgttaaat gaagatgctg tctacaaggt agataatata ctgtttgata 360
ctcaaaacat ttttcatttt gtttaaagta gaagttacat aattctatat tttaagtct 419

<210> 408
<211> 523
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(523)
<223> n = A,T,C or G

<400> 408
acatttgatg ttatgtgaat gttgagtttt tttcttctaa ttttcacttc agcagtgttt 60
agggctttca gatgccttat tccagtgtga acagaaaaag ttcatatttt atgtgggttaa 120
tgctttgatg tgtcacataa agagtagttt gtagaaaatg ttggcacaat tttaacttct 180
tagtggtctg tgacattata tattatata atatgtatat atatctttat aacattcctg 240
tgtttagtag tgtaaagtgt ctgggcaagt tttaatattt tgaatgcctt tggatattcc 300
agcaataaag gcatcatgtt ctgcaatagg atttcttact catttaccta ttttaacact 360
aaaatagacc acaactgagc acaaattcct tttataaatg ttatagaagc agggagaagt 420
aataaacaca tttgtgaatt gtggttcagt ttatttatct ttagggaagc ctgatcattt 480
atcttatagc acataacccc agcctcttat tcattatggn taa 523

<210> 409
<211> 191
<212> DNA
<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(191)
 <223> n = A,T,C or G

<400> 409
 accccgtagt gatgagcact gactggttca ctggccacat tttagttctt cataataata 60
 ggccacaaaa gggtctgtgt gtttgcctcc atgtgcaactg gccctcccc acccctaggg 120
 ggcaactcagt agctgctgag aaggcctgtc cacgangctg ttggaacccc ttcaataaat 180
 acttagaagn a 191

<210> 410
 <211> 403
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(403)
 <223> n = A,T,C or G

<400> 410
 acactggcca gtgtgttttt ggcgattaaa cataatcctg tgaatcagat taattcactt 60
 gctgagtggt catttgcggc atccctctgt tgggtcttgg gggccctcca cgacctcgtg 120
 gggctccccg tggctccactc tgcccagagc ctgcgttgaa attctgctga tatccatccc 180
 gttgatagcc agagtaatcc cggggagcac tgaactgaga ctgtgtataa ccaactgtttg 240
 gagtggttaga gaatgaaggc cggtaaccat catatcctcc tctgaatcca ttggcagggc 300
 cccggtatcc attcatcaag cctctagcac cacgggagcc tccacgagac acaccacgac 360
 tattgtaata gggtgattg ctacgtggaa atccagtnt ctg 403

<210> 411
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 411
 acgtgaaatc ataacaacat gttctcttgt gtttggttc tcttgetcag catgatattt 60
 ttacggttca cccatattgc atgtatcagg aatataatcc tttttattat tgagtagtgt 120
 tctattgtat ttatatacca cagtttatit ctcccttcat cctttgctag attttggggt 180
 tttttcacat tgcgctattc aagtataaac ctgctctcaa cattcatgtg caagtctttg 240
 agtggacata tatttgccgt ttctcttgag tgaatgcacc ttgttgggtc acgtggctta 300
 atttaaaaaa attttaatca ctgtggtgca tatgtagtga ttattagtga ttatctcata 360
 attttatittt cttgatgact aatg 384

<210> 412
 <211> 315
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(315)
 <223> n = A,T,C or G

<400> 412
 acaatatttc tcctttgaga agataggata tatgattttc ccaaaaatca caactttgaa 60
 ggaagactta nttgctgact tcaattatat cctggaactg gcaacttggt cccttccttt 120
 gcttcaaaaa aagtgtgaaga aagagtgata agatcaactt taatcattct tggatcttca 180

```

gcaaattcag gatcaatgta gaaaaacact ggcataatcta cttcctcttg gggattaagc 240
ctttgttctt caaacacagaa gcactgtatt ttattgaaat actgtccacc ttcaaattgga 300
acaatatattgt atgna 315

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<210> 413
<211> 554
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(554)
<223> n = A,T,C or G

```

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<400> 413
acaggtttca ctattacaaa tatatgatgt taaactaaca aactcatgac cttcaaagat 60
gtcttcgtcc cagcacacac catttgtaat ttgtgtccat ttgtatttc cttcttctta 120
taatcttcaa attatatagt tatgcattga gttccctatg catctcacc atctccttta 180
tctcagcctt ctcatacttt gccattctct tctttctgga aataaccagc acaacaattc 240
cagcaacaac tgctatcacc acaaccacaa taacagcaat aacaccagct tttagaccct 300
gcattgagaa ttcagggtgct ttttcatcaa cataataaat taaagtttga ccaggatcca 360
gatccagttg ttccccattt actgtcaggt gccattttct tagaatgaaa caaggattca 420
cctttaacat ctttttcaaa ataataagcc acatcagcta tgtccacatc attctgagnt 480
ttttgagaag aattttgaac cagatcaata gtgataacat tattctcata caaataactc 540
ngngataaatt ntgg 554

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<210> 414
<211> 267
<212> DNA
<213> Homo sapien

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<400> 414
accagaaagg cacacgattt tacaatatatt gttggaatta cttactttt taacctctc 60
atagcagttt tggtttgagt atattgatga aagccaaagt ctggtatcta aaacttgggc 120
caatgtttcc caactggtat atgtcaggct ttcccaatag ctttaactgtg acctatacg 180
gatggctttt tagatagttc tatactgctg tattgtgtta gcacttttct ttgtcattaa 240
caacacactt taaatgacat ttggtga 267

```

```

<210> 415
<211> 454
<212> DNA
<213> Homo sapien

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<400> 415
accggaacct gcagaaacag tgtgagaaat taagtcctgg ttcactgcgc agtagcaaag 60
atgggtcaagg ccatggaaaa agcagaaatt taccaagaaa gctgataccc atgtatagtt 120
cccactcatc tcaaatacat ctgctatctt ttttaagctaa gtcctagaca tatcggggat 180
aacatggggg ttgattagt accacagtta tcagaagcag agaaatgtaa ttccatattt 240
tatttgaaac ttattccata ttttaattgg atattgagtg attgggttat caaacaccca 300
caaactttaa ttttgttaaa tttatatggc tttgaaatag aagtataagt tgctaccatt 360
ttttgataac attgaaagat agtattttac catctttaat catcttgtaa aatacaagtc 420
ctgtgaacaa ccactcttcc acctagcagt atga 454

```

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<210> 416
<211> 370
<212> DNA
<213> Homo sapien

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119

<400> 416
 ccgacacgggt gccagcgccc tgcctgcgtgc ccgccagcta caatcccatg gtgctcattc 60
 aaaagaccga taccgggggtg tcgctccaga cctatgatga cttgttagcc aaagactgcc 120
 actgcatatg agcagtcctg gtccttcac tgtgcacctg cgcggaggac gcgacctcag 180
 ttgtcctgcc ctgtggaatg ggctcaagggt tcctgagaca cccgattcct gcccaaacag 240
 ctgtatttat ataagtctgt tatttattat taatttattg gggtgacctt cttggggact 300
 cgggggctgg tctgatggaa ctgtgtattt atttaaaact ctggtgataa aaataaagct 360
 gtctgaactg 370

<210> 417
 <211> 463
 <212> DNA
 <213> Homo sapien

<400> 417
 acactttata tattccaaat tgatcagata tatggtttgc aaattcatct. caatctgtag 60
 cttatctttt cctcttctta aatcacaagt ttttaaattt tgaagaagtc caatatatca 120
 gattttgtct ttatggatg tgccttcggg gcaaagtcca agaacttgct acctagccca 180
 agatcctgaa gatttttctc ctgtggcttt tttcaaagtt atctagtttt atgtatcaca 240
 ttttaagtccg ttatacattt tgagttaaat tttatataag atgtgagggt taagtagagg 300
 ttcttttttc tcctogccat ggggtgtctaa ttgctctagc ataatttgc agaaaggcta 360
 ttcttctctc attgaattgc tttttcactt tttcaaaatc agctgagcat atttatatgg 420
 gtttatttct gggttctctc atctgttcca ttgacgtatg tgt 463

<210> 418
 <211> 334
 <212> DNA
 <213> Homo sapien

<400> 418
 ttagcatttg cttttatttt tttactttga tgccttttca aattggcatg tctttaaagt 60
 atttttcttc ctgattaaaa atgtgtgtgt atgtgtgtgt gtgtgtgtat atatatat 120
 ttttaaatca cattaatattt accaagtga accaagccat actgtttttg agccaattaa 180
 gaaaattgcc atttttaaaag tgtagcattt cagggtaaaag acccatgaaa tggcttgatg 240
 tattctagac tactgaaaga aaaccacttc aaagattttg ttgaaagttt tagtgttgtc 300
 tgaaatgcaa gaggggaagggt gattggtagt gagt 334

<210> 419
 <211> 297
 <212> DNA
 <213> Homo sapien

<400> 419
 acttctttga ccaaggaata ccacagacac cctaccgata gaacagtggc tcagatctta 60
 cttgtcctcg cttacgaagt attcccaatc actggtcacg tgacctact tgaacactcc 120
 tgaacagtca tgttttttaa aatcttcctt tatatcaagt cagagagtat acttctataa 180
 atttactca tggatgttag gaaatctagt catcttcctt gtgattgccc tgttaagtat 240
 ttaaccatag ctatcatgtg tttcccaaat cttctctaga ttaaatatct tcagtta 297

<210> 420
 <211> 418
 <212> DNA
 <213> Homo sapien

<400> 420
 acgagaggaa ccgcagggtc agacatttgg tgtatgtcct atcaatagga gctgtatttg 60
 ccatcatagg aggcttcatt cactgatttc ccctattctc aggctacacc ctgaccaaaa 120
 cctacgccaa aatccatttc gctatcatat tcctcgcggt aaatctaact ttcttccac 180

120

aacactttct	cggcctatcc	ggaatgcccc	gacgttactc	ggactacccc	gatacataca	240
ccacatgaaa	tatcctatca	tctgtaggct	cattcatttc	tctaacagca	gtaatattaa	300
taattttcat	gatttgagaa	gccttcgctt	cgaagcgaaa	agtctaata	gtagaagaac	360
cctccataaa	cctggagtga	ctatatggat	gccccccacc	ctaccacaca	ttcgaaga	418

<210> 421
 <211> 304
 <212> DNA
 <213> Homo sapien

<400> 421						
acgcctggac	ccctgtgact	tgcagcctat	ctttgatgac	atgctccact	ttctaaatcc	60
tgaggagctg	cgggtgattg	aagagattcc	ccaggctgag	gacaaaactag	accgggtatt	120
cgaattattt	ggagtcaaga	gccaggaagc	cagccagacc	ctcctggact	ctgtttatag	180
ccatcttctt	gacctgctgt	agaacatagg	gatactgcat	tctggaaatt	actcaattta	240
gtggcagggt	ggttttttta	ttttcttctg	tttctgattt	ttgttgtttg	gggtgtgtgt	300
gtgt						304

<210> 422
 <211> 578
 <212> DNA
 <213> Homo sapien

<400> 422						
actgtgcagg	cagattccaca	gggtgggtgt	aaagcatcca	caatggctct	ggcagcatca	60
ggatcacact	tgaaggggct	ctcagacaaa	gttgtattca	tgcaactgat	tccttttcca	120
ttcgttttct	tagtcaactaa	tgcctttccaa	tggtcatgag	tgcttttaat	aatatcaatg	180
gcaaagtcct	tatcttttaa	ttctgcatta	aacgcaaact	cattttcttg	ttttccatca	240
ggaaccttat	acctttctaaa	ccagtccaca	gtagcttcta	agtagccagg	tttcagccgt	300
ttgacatcat	tgatatcatt	ataattggct	gcatcaggat	catccacatt	aatggcaatg	360
actttccagt	cggtttcccc	ttcgtcaatc	atagccaata	tgcttagaac	tttcaattat	420
ttatttcacc	tcttgcacat	accttgcttc	caatttcaca	cacatcaatt	gggtcattgt	480
caccacaaca	gccagtatgt	ttatcattgt	gccctgggtc	ttcccaagtc	tgagggatgg	540
caccatagtt	ccagatatat	cctttatacg	ggaacaaa			578

<210> 423
 <211> 327
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(327)
 <223> n = A,T,C or G

<400> 423						
acagtatatt	tttagaaact	catttttcta	ctaaaacaaa	cacagtttac	tttagagaga	60
ctgcaataga	atcaaaatth	gaaactgaaa	tctttgttta	aaaggggtta	gttgaggcaa	120
gaggaaagcc	ctttctctct	cttataaaaa	ggcacaaact	cattggggag	ctaagctagg	180
tcattgtcat	ggtgaagaag	agaagcatcg	tttttatatt	taggaaattt	taaaagatga	240
tgaaaagcac	attttagcttg	gtctgaggca	ggttctgttg	gggcagtgtt	aatggaaaag	300
gctcactgnt	gntactacta	gaaaaat				327

<210> 424
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 424
 acgaaaaata aatctcctta aaaactaaat aaaatgcact gtattcttac agttaatggtt 60
 tataactata gtaaaaaatt aatataatct ctattacata aatgttattt cttaggtggtt 120
 ccattaagaa gagcaataga ataatgctaa aaaataatgc ctataaatct tcagagtata 180
 aagacatcca ttcagaaaca aaaattagca ctaaattttt tataaaatag accagatgac 240
 aaaatttatt ttatttttaa acagtgggtt tgacacaaat tatgttattg aaaagcatta 300
 ttaatgttta atttatttaa aattttggaa tttgccattt ctcagagaat gatcaggcct 360
 taggaaatta atacagtagt agta 384

<210> 425
 <211> 255
 <212> DNA
 <213> Homo sapien

<400> 425
 actatcaggc tttgtgctga tttcctgaac aaactgcatt atattatgaa aacaaaagga 60
 aaagaagaaa taataaaaac tatactccca tatttcactt acagtgtttg agttcctgga 120
 aggacctata taatggaggc agcattcaaa caagaatta tgccaatcaa ctgtcaaatt 180
 ttcactataa ttttcctaaa aaggcgtttt tcccccaata tctattaatc tcaaagaaac 240
 ataagttgtg aatgt 255

<210> 426
 <211> 196
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (196)
 <223> n = A, T, C or G

<400> 426
 acatgaantn nccaggccca cacagccaga cagcaacaga accaagacct agggctcttc 60
 actcctgtta catcacacca tggcaatgat tttacattct ccaactgatt caaatcatat 120
 ggcagctagg gatttggggg ctccatgttt tatttcaatt gcaagttcaa gatttctttt 180
 tatctttgtg ggctga 196

<210> 427
 <211> 163
 <212> DNA
 <213> Homo sapien

<400> 427
 acagaagatc catggaggca agtgctgtca ggaaggacac tgccctccctc caccctccca 60
 aatgtcacca ccaagttcct tcagggtgaga cctcacacaa tgtcaagtgc tttctaggaa 120
 atactaagat caggttgaga gattctgctt ggtctagtca atc 163

<210> 428
 <211> 315
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (315)
 <223> n = A, T, C or G

<400> 428

nactgagtan	agatgctggg	gaatgtgcaa	tatgccttga	agaattgcag	cagggagata	60
ctatagcacg	actgccttgt	ctatgcatat	atcataaagg	ctgcatagat	gaatggtttg	120
aagtaaatag	atcttgccct	gagcaccctt	cagattaagc	gtcagcttcc	tgttttatag	180
gttttcttgt	cttgacaaga	tgcttgaaaa	accaagagga	tatgaaaatc	tgtctctgga	240
gaaacaaaga	cgcaggcata	ctcagccaga	aatctgagtt	ttgtgagact	tggtaatata	300
gagatggaca	atcgt					315

<210> 429
 <211> 131
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(131)
 <223> n = A,T,C or G

<400> 429	
acagtttaggn	actagaacat
agtgtccagc	tcttgacta
atattgaggg	t
	60
	120
	131

<210> 430
 <211> 503
 <212> DNA
 <213> Homo sapien

<400> 430	
actgattttt	aataaaagaa
gctgacaact	tggataaaaa
ctgtgtgcat	acaggaatgc
ttaattttaac	tactttttgt
gtaaacactt	caaagcaatc
tccaaaacta	aggatgtcat
tcactactaa	gatcactaca
ttacaaatat	tagcaatgca
agaattttta	taaagacggt
	gca
	60
	120
	180
	240
	300
	360
	420
	480
	503

<210> 431
 <211> 207
 <212> DNA
 <213> Homo sapien

<400> 431	
acaagtgtgg	cctcatcaag
gggccgccaa	cgctgtgggc
tgaaaaacaa	tgtgggcaga
tgctgggaca	gaaggcattt
	gacatgt
	60
	120
	180
	207

<210> 432
 <211> 485
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(485)
 <223> n = A,T,C or G

<400> 432

aaaaaaagta	atggaaaaat	ggttgcaggt	ttaatcncaa	aangaactta	attttngtng	60
attttgtttt	atctgctaaa	acactaatat	ctataaatat	gaactgacag	catcgttcta	120
aatttacttc	tgaagagctg	tcgagacttc	aataaaatat	aagcaagtta	ctggatcata	180
tttatggact	gctgaattaa	ctacccgaaa	agtatcagtt	actttcaaag	aacacaaaaac	240
aaagtgaacg	tggaaaaaag	ccttcctttgc	aaaagtcctt	ttattagtcc	tatcctctaa	300
aattccaagc	cacagagcct	tgatattcct	ggattctggt	ttaagtaacc	ttagttttaa	360
atatgacact	tgggatatgc	acaatgggaa	agggtaggat	atgtgaacaa	aatttaattt	420
cttttttcca	aagggnagnca	ttttctttaa	atncatccta	tccacttttg	cccacttccc	480
catgt						485

<210> 433

<211> 280

<212> DNA

<213> Homo sapien

<400> 433

actgtcacta	caatattaca	ttctgcaaat	gttattctgt	tgtatcagat	acaaaatttt	60
agtgaggat	ctctaaggca	catagtagaa	aacaaaattg	gttaattact	caagttcctt	120
tcactgtgat	ttggaaatga	tttaatcttt	atagaatgag	aacctttttt	ggactagctt	180
ttttattaaa	atggctcaat	ttgtgttgat	aaggattgca	ttaatatatta	atagtgttg	240
cttttcctct	gggcacacca	ttttgatcat	taaccagagt			280

<210> 434

<211> 234

<212> DNA

<213> Homo sapien

<400> 434

ctttgtcgcg	catcaggtgc	tttaagcttc	ggaacaactg	tgcaggattc	tatttttagta	60
ttctggaagc	atcattgagg	aagtagtcca	gtgaagttag	ctctaaaaaa	actctttact	120
ctaacaatta	aaagaaatat	gccaaaggat	ccataaggga	tgaataaatt	attaaactat	180
taagaagttg	ctataaatat	gcagtgttaa	ttcaataaatt	cataacggac	tggt	234

<210> 435

<211> 330

<212> DNA

<213> Homo sapien

<400> 435

acctccggtg	tcaccagttc	ccacagaagc	actgcaaaac	tcacatgtc	tgctgagcgt	60
ctgttttgtg	cttcaggctt	cttctgcaga	gcttcggggg	ctacccaggc	aggtgcatac	120
atgcgaccag	gacattggaa	agagaacttg	acatcagcca	tgctaattcg	ggcagtcatg	180
tcctcatcaa	tcattacact	acggctattg	agtgcattgc	gtgggatgag	gggtcttagt	240
gtgtgtagga	aagccatgcc	ccttgccatg	tccaaagcaa	acttcacagc	ctggctctgg	300
tccacgacga	aattggtgcc	ttcatgtagt				330

<210> 436

<211> 311

<212> DNA

<213> Homo sapien

<400> 436

acaactttac	aatggaattg	tatttcaatg	attattttga	tatcagatta	aaccttccaa	60
aaagttacac	ataattcagg	tctatttttt	ctaccagtaa	gagttctgct	aaattacaaa	120
accccataat	cacagtgttc	agttttttaa	aaattaaaca	cacagtaatc	ctgtcaatgt	180
taatcaaaat	caaaacttcg	gaatgccgtg	gcatttatgt	gaccaatctg	agtttttagat	240

acaaatacca gctgtttatc ccatgaacca tttttcctag gctgaggctg tgaaaaatcg 300
aaagtcggcg t 311

<210> 437
<211> 355
<212> DNA
<213> Homo sapien

<400> 437
actagtggat ggggggtcagg gtgtcactcc aaggccctct acagaccag agaagaggaa 60
agtcaaaaaa gccagatatg agactgctga agtgggtgta agaaatatag gcaaggtaaa 120
gggaacaaga tctgggctcc ctctacttg tgtccctcac tggacctcag acaccctacc 180
tctaagactg gttcttagaa ggctgaacag taaggagcat tccaatagct tctgaaactc 240
ccaaggctgt ttcaagtagt cgaaagccat ccctggactg ttcagggtgc ttttctatct 300
cccacctgag ctctctgccc tttctttgag cctcacaggt ttccagaatt acagt 355

<210> 438
<211> 431
<212> DNA
<213> Homo sapien

<400> 438
acagtaactt taactttaca tagagctgag ataaaaataa agcttttctta caaattacat 60
tttttttcca gtgaattact ttgacagtaa aaatagctgc tacataaatc cctcctgac 120
tctgaaaagg agttgcatat ttccaaaaat aatattctta ttttaatcac acagaagaac 180
gtggagcaca ggaaggaaat ggctgggtgg tcagagagag gtgagctgtc ggagaaacac 240
agttaaacta aaaaataaaa tccattttgt gtataaactg acttaaacgc atgcaaagaa 300
gtggaataca tatgccattt gtcaagaaaa atactgcttt atagctttta ctttacaatt 360
aaaggagaaa gcagaggcca gatataagcc cagataataa catttaagtt tctcataaaa 420
ctcccaaatg t 431

<210> 439
<211> 170
<212> DNA
<213> Homo sapien

<400> 439
actgtcataa aaaacagtgg agctctgtat tagaaagccc ctcagaactg ggaaggccag 60
gtaactctag ttacacagaa actgtgacta aagtctatga aactgattac aacagactgt 120
aagaatcaaa gtcaactgac atctatgcta catattatta tatagtttgt 170

<210> 440
<211> 400
<212> DNA
<213> Homo sapien

<400> 440
acgtaaaaag aacatccttc ccatcttcaa ggtcaagatt gaacgctgac tcctgcagga 60
agtcttccag gattcccagg caggaaatgat ggctccctgt ccctgtagct ccaggagtgc 120
ttgcttcacg cagcctcac ataccagact gaatgttggc aggaggagt accagggtcg 180
tcatctgtgt ccctaccacc tacaacaggc cagcaatcta ccctgtgtgt tttgttgac 240
agaattaacc atgatgggcg gccgaggcg cctggagcta tttgggggtc tggagagaac 300
ctcttaggag agtgtcaggc tctaggccag tgtcaccaga ggaggtcagt ctcagtcctt 360
ggagtgggtg gatggaaacc agacgggact ggcattgtcc 400

<210> 441
<211> 204
<212> DNA

<213> Homo sapien

<400> 441

acctagttac	ttcttaagat	caggtgtata	aaactgtgga	gtggagcgg	atggtatgga	60
atgacttgga	atgtaagctg	tcaggagagaa	aatgttggtta	cacttttgct	aagatctggg	120
ggtttcttca	tattcctgct	gttggaagca	gttgaccaga	aatgcttgcc	agtactgcca	180
aagcaactgct	gtgaaatgtg	aagt				204

<210> 442

<211> 649

<212> DNA

<213> Homo sapien

<400> 442

acatttaatt	ttttacaaca	ttttctccct	agagatataa	tttagatatt	cctatottca	60
aagtaaaaat	caaaatagga	aataagcata	gaaacagcct	attggcagtg	gttacacctg	120
catggtat	atgagctctc	aaactattgg	aaattttatt	caaccaagg	tctcttaagt	180
cttcattact	tgggtgtaac	tcgagagaaa	actaatat	atcaatttac	agtttagtgg	240
tcgatgatcag	gggaaagtga	tactcttcca	ctgactacaa	gtcattgcag	aggcagttta	300
gaacttttcc	tttattccta	atatacagga	caaaccctgc	cgacatctca	ctacctcaaa	360
aatcaaattt	aatgaagta	tccaggagta	gcctaaagaa	tgagtgtaat	ctggatggat	420
tttagtctaa	atttatgcct	tgctcttcag	taaagtatag	taactccaga	tatatgttcc	480
acagatgcaa	taatttctgt	tccttggtog	gtgcagaata	taattttatac	ttcctgaaat	540
caactttgtc	tattcatgaa	aatagctgct	ttttatttgc	ctttgtctca	ctttgaaat	600
atatgatcca	caggttacag	acttttccaa	taactacatt	tcaacttgt		649

<210> 443

<211> 346

<212> DNA

<213> Homo sapien

<400> 443

acgtgggatt	gaaatgcaca	tacatgtttt	tgctaagagc	acatacat	cattctctc	60
actttgttca	taacctcagc	attgtcagat	aacctcagtg	agttaactca	aagcctttta	120
ttatggaaag	aactggcaca	gttacatttg	ccagtggcaa	catccttaaa	aattaataac	180
tgatgggtca	cggacagatt	tttgacctag	ttcctttttc	ttttagagca	aaaagaactt	240
ttacctcggc	atccagccca	accctaaag	actgacaata	tccttcaagc	tcctttgaaa	300
gcaccttaaa	cagccatttc	catttttaata	gttggtatgcg	gattgt		346

<210> 444

<211> 425

<212> DNA

<213> Homo sapien

<400> 444

accaatttcc	ttttacagta	aaggggcttt	tcctgttget	tggtgaaccg	gttcccagct	60
gccattacc	accaagccca	aaagagtaaa	ttcgtcctga	tgaaggaaca	aaagcagaag	120
tgtgtgccc	tcacaagca	atctcagtg	caatgcttcc	cataagttca	aaaactttcc	180
ttgggtttat	ttcatgactg	gtagaattat	ggcccaactg	accataccct	ccagctccaa	240
aagtaaacac	tccaccttcc	ttggtttagag	cagcagtatg	atcttctcca	caacaaatat	300
aaactatttt	ctgagatctt	agtgacttta	gtaaattagg	aacataccta	tcattttcat	360
cattaagacc	tagctgacca	aacttggtgc	gtccccatcc	aaagatagct	ccagaaagg	420
tgagt						425

<210> 445

<211> 210

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(210)
 <223> n = A,T,C or G

<400> 445
 nactgtccca atataaaaca gtaattatTT gacctttgca ctgtttgtct ggtccttttc 60
 agtttgattg catataaatg tggaacttga tagatctcta tttttttaat gcacttgtga 120
 taaactggca gcagggttag acattacttt caaagcttga ggtagaccga gtcagcatgc 180
 tagacaggct tctctctcta accaaaactg 210

<210> 446
 <211> 326
 <212> DNA
 <213> Homo sapien

<400> 446
 tcgaaagacc cctgtaaaag agcccaacag tgaaaatgta gatatcagca gtggaggagg 60
 cgtgacaggc tggaagagca aatgctgctg agcattctcc tgttccatca gttgccatcc 120
 actaccocgt tttctcttct tgctgcaaaa taaaccactc tgcccatttt taactctaaa 180
 cagatatttt tgtttctcat cttaactatc caagccacct attttatttg ttctttcatc 240
 tgtgactgct tgctgacttt atcataatTT tcttcaaaca aaaaaatgta tagaaaaatc 300
 atgtctgtga gttcattttt aaatgt 326

<210> 447
 <211> 304
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(304)
 <223> n = A,T,C or G

<400> 447
 nentcnaggt acatgctaga agtctgatgt ngtnngtaac acagaaacat acacagtctt 60
 catattcaaa gtcttcacng ggatgtcggt ctgtaatttc ctgcgtttgg gtctcttcca 120
 gaaacagctt tagcttctcg ctccgaaggc caaacacctt ggctgcttca tacagaagac 180
 cttggtgggt gagtocattc tgcccaagtg ggTTTTcaag caggagagtg cccactgtcc 240
 ccattaaaca ctcttggtggc tttgcattca ggagctgtag gttgatatac tgacaaggaa 300
 gagt 304

<210> 448
 <211> 203
 <212> DNA
 <213> Homo sapien

<400> 448
 acatgaaagc ggcaatgcgg taaaaagcga attcttaccC aaggtcagaa ttttttatta 60
 agcgcatttt cattagttgg acaaacaccC ttataaaccc ttatgtcaaa ccatataatg 120
 tgaagaatct ccatgggaga gatttttttt cacccttcag aattatcttt ttcccctaag 180
 accttcatat gaatcttctt tgt 203

<210> 449
 <211> 481
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(481)
 <223> n = A,T,C or G

<400> 449
 acttggtcta taataactctg atgtttcctt aaattcctga acaacattct gtttactaaa 60
 tttcttttct tcctttattc acaccaaatt ccaccctata atagaagcta attatttcag 120
 aaagcttttt agtgatcatt tattactttg tgtttactag atattaattc taagatgaat 180
 tccttttagaa ttttagaaaa aattattcta gacaacaatc aaagtaaagg atacatccag 240
 cattgaaacc ataagccggc aagtctccag gttaaaagg ttgtatcctc cagcaatgcc 300
 agactgtgtc agacatctct gcaattcatc agcatctatc tgccatcct gtccagctac 360
 agcagcaaaag taaccataca gcggtcctg agtttgtccg ggaaacgcag gccctccggg 420
 agccctcca tactgcctct tgagttgaag tcttatangt agaagctggt gatccttaga 480
 g 481

<210> 450
 <211> 296
 <212> DNA
 <213> Homo sapien

<400> 450
 acatggttta atacaacaac aaaaaaattt aatcaagtga aacgtaataa actgaacaat 60
 aaacactcaa aacatttttc attgaaaca tgtaaagaca atatgaggtt ttgttaccat 120
 cttactgcaa ttttcttatg tgttactagt ctacataccc catgttttct gtaatcatgc 180
 agatgtgaat ggaagtttga atgattaaat aaatgaaaag tccgtttact gcaggggaatc 240
 atttcacaag gcagccaaac cgggtttaga gaacaaaact attcaagaaa ttctcc 296

<210> 451
 <211> 294
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(294)
 <223> n = A,T,C or G

<400> 451
 acatgntcca aggcacgcgn ctgtgaactt cctctgagtg aaggcatccc ctccagcacc 60
 tttcagcctg ctagttagga cgaccgcctg ccaccctcca ggacctccag ccctgcactg 120
 cctttcctct cttttaaata attcttcatt gagttctaat atgtaaaaaa aaagtttact 180
 gtaaagtttg caaataanga aatttttttt aaaagtcctc agtaatctta ccagtaacaa 240
 ttgttatggg cacatttgct tttggaagat ttcttttgta tgcattggat aagt 294

<210> 452
 <211> 129
 <212> DNA
 <213> Homo sapien

<400> 452
 acttttagat cacaaatttg cctttaagta acacataata cacttaaggc agatttgcct 60
 tacaggtggc ctacgttct aaacaccact acactgcttt atataaaaaa caaaaatcac 120
 atagaagag 129

<210> 453
 <211> 151

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(151)
<223> n = A,T,C or G

<400> 453
actctcaann tgtatttagg tgccaacaca tttaggatca ttgngnnttc tcagtgaatt 60
gaccttttta tgagaataaa atgtctattt ctgaaatgtc cctattttctg gaaatgttcc 120
ttataactaaa gtccaacttg tgtggattan t 151

<210> 454
<211> 119
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(119)
<223> n = A,T,C or G

<400> 454
tgctgatgna gcatgctttt taaatccttt aaaaacactc accatataaa cttgcatttg 60
agcttggtgtg ttcttttgtt aatgtgtaga gttctccttt ctgaaattg ccagtgtgt 119

<210> 455
<211> 515
<212> DNA
<213> Homo sapien

<400> 455
accttataaa gttccttttc atccttctct gtcttcaact gacattcaag ttgttctctt 60
tcatgtgtg ccttcttgag tttggccttt aaactgtcta attcggtttc tttttcaatt 120
gctttatgtg ttactgacac aatatcttcc tcaagctgat gggctttgga tgtagcatca 180
ctgaacctct tcttaaactc ttcattttcc atttttaagc ttgtgttac ttcagtaaga 240
cccttttgtt ctgcttgagc ttggtcacat ctttctttct catggtaag ttctctttcc 300
attctcccaa cttgttctcg aagttgtgct gtttcttttt ccagaacggc aattaacttt 360
aacagttctt ctttttcttt catggttttc tcaattttca actcaagaag gcctgctttt 420
gtggtcacca ctaacatgtc agaatttctt tcatcttcca tagtaagcag ctcttcaact 480
ggagaagaag ctgaaactg gaaaggtgta cctgc 515

<210> 456
<211> 350
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(350)
<223> n = A,T,C or G

<400> 456
actcccctcc ccaaatagaa acctcaaaga ctgatccatt tcccctaggg cctgggccag 60
gagtagctca ctgctcactg ctgaggagaa aggcacaaga tataatgtca taagagcagg 120
acagtggctc agcctacaga gttccctata ggggaaagaa ggcaggaaat aggcgcaggg 180
tctggtcctg tccctgcacc accctgagca gctagtcttg ggaagggatt acaggccctg 240

ggccataggc	tgctcgccat	tctgctttcc	tatcctgttt	ctctccctgt	gctgctccct	300
tttagccagn	gctgagaaat	gttcancacc	tgaggcaaaa	ctgccatagt		350

<210> 457

<211> 293

<212> DNA

<213> Homo sapien

<400> 457

gcagggccaa	cagtcacagc	agccctgacc	agagcattcc	tggagctcaa	gctcctctac	60
aaagaggtgg	acagagaaga	cagcagagac	catgggaccc	ccctcagccc	ctccctgcag	120
attgcatgtc	ccctggaagg	aggctcctgt	cacagcctca	cttctaacct	tctggaaccc	180
accaccact	gccaagctca	ctattgaatc	cacgccattc	aatgtcgag	aggggaagga	240
ggttcttcta	ctcgccca	acctgcccc	gaatcgtatt	ggttacagct	ggt	293

<210> 458

<211> 500

<212> DNA

<213> Homo sapien

<400> 458

actagactcc	agattaccct	ttcttaataa	atatctcagg	gtaaggaaag	aaagaaactg	60
tatagatata	tttaaaatag	agaatacttt	ccaagcaata	catgatgcct	ttcctaaaag	120
actctaaaag	aaaaagattc	tgtaactctc	ttttagcacc	aaattattgt	ttatcttgct	180
ggatatttta	tatgaacagt	gttaatttag	atgcactaaa	gcaaaggtag	gcaaactaca	240
accatgagtc	aaacatggcc	acaccattc	atttgcattt	gtctaagctg	gttttgact	300
acaactgcag	agttgaatag	atgcagcaga	tcctttacag	aaaaagtttt	ctgacctcaa	360
ttctaaagta	attgtagtag	ggagctggag	gactttcttt	ccctttatgg	taattttttg	420
agctacaaaa	agagccttgc	agaaatgggt	gaagggatta	atcttttaaa	aataaatgct	480
atatattagg	aaaataaaaa					500

<210> 459

<211> 394

<212> DNA

<213> Homo sapien

<400> 459

ggtgaaaaga	cttgattttt	tgaaaggatt	gtttatcaaa	cacaattcta	atctcttctc	60
ttatgtattt	ttgtgcacta	ggcgagttg	tgtagcagtt	gagtaatgct	ggttagctgt	120
taaggtggcg	tggtgcagtg	cagagtgcct	ggctgtttcc	tgttttctcc	cgattgctcc	180
tgtgtaaaaga	tgccctgtcg	tgagaaaca	aatggctgtc	cagtttatta	aaatgcctga	240
caactgcact	tccagtcacc	cgggccttgc	atataaataa	cggagcatac	agtgagcaca	300
tctagctgat	gataaataca	ccttttttcc	cctcttcccc	ctaaaaatgg	taaatctgat	360
catatctaca	tgtatgaact	taacatggaa	aatg			394

<210> 460

<211> 279

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(279)

<223> n = A,T,C or G

<400> 460

actnccgatt	gaagcccca	ttcgtataat	aattacatca	caagacgtct	tgcaatcatg	60
agctgtcccc	acattaggct	taaaaacaga	tgcaattccc	ggacgtctaa	accaaaccac	120

130

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tttcaccgct acacgaccgg gggataacta cggtaaatgc tctgaaatct gtggagcaaa 180
ccacagtttc atgcccatcg tctagaattt aattccccta aaaatctttg aaatagggcc 240
cgtatttacc ctatagcacc ccctctagag caaaaaaaa 279

```

<210> 461
 <211> 278
 <212> DNA
 <213> Homo sapien

```

<400> 461
tttggacact aggaaaaaac cttgtagaga gagtaaaaaa ttaaacaccc atagtaggcc 60
taaaagcagc caccaattaa gaaagcggtc aagctcaaca cccactacct aaaaaatccc 120
aaacatataa ctgaactcct cacacccaat tggaccaatc tatcaccta tagaagaact 180
aatgttagta taaagtaaca tgaaaacatt ctctccgca taagcctgcg tcagattaaa 240
acactgggact gacaattaac agccaatatc tacaatca 278

```

<210> 462
 <211> 556
 <212> DNA
 <213> Homo sapiens

```

<400> 462
aacgtccaag ggggccacat cgatgatggg caggcgggag gtcttgggtg ttttgtattc 60
aatcactgtc ttgcccagc ctccgggtgt actcgtgcag ccacgcagc tgacgctgta 120
ggatgaagcg ctgttgccct cggcgccgat ctcgatctcg ttggagccct ggaggagcag 180
ggccttcttg aggttgccag tctgctgggt catgtaggcc acgctgttct tgcagtggta 240
ggatgatgtc tgggagccct cgggtggacat caggcgaggg aaggtcagct ggatggccac 300
atcggcaggg tgggagccct ggccgccata ctggaactgg aatccatcgg tcatgctctc 360
gccgaacccg acatgcctct tgtccttggg gttcttgcgt atgtaccagt tcttctgggc 420
cacactgggc tgagtggggt acacgcaggc ctccaccagt tccatgttgc agaagacttt 480
gatggcatcc aggttgccag cttggttggg gtcaatccag tactctccac tcttccagtc 540
agagtggcac atcttg 556

```

<210> 463
 <211> 659
 <212> DNA
 <213> Homo sapiens

```

<400> 463
cacactgtgc ccttccagtt gctggcccgg taaaaaggcc tgaacctcac cgaggatacc 60
tacaagccc ggatttacac ctgcccacc tggagtgcct ttgtgacaga cagttcctgg 120
agtgcacgga agtcacaact ggtctatcag tccagacggg ggcccttggg caaatattct 180
tctgattact tccaagcccc ctctgactac agatactacc cctaccagtc cttccagact 240
ccacaacacc ccagcttcct cttccaggac aagagggtgt cctggtoctt ggtctacctc 300
cccaccatcc agagctgctg gaactacggc ttctcctgct cctcggacga gctccctgtc 360
ctgggcctca ccaagtctgg cggctcagat cgcaccattg cctacgaaaa caaagccctg 420
atgctctgcg aagggtctct cgtggcagac gtcaccgatt tggagggtcg gaaggctgcg 480
attcccagtg cctgggacac caacagctcg aagagcacc cctccttccc ctgcccggca 540
gggcaettca acggttccg caaggtcac cgcctcttct acctgaccaa ctctcaggt 600
gtggactaga cggcgtggcc caagggtggt gagaaccgga gaacccagc acgcccctca 659

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<210> 464
 <211> 695
 <212> DNA
 <213> Homo sapiens

```

<400> 464
accttcattt gaccccatca gcttcagggc cttctttaca tttccactgg cctgatccat 60

```

```

gtatgcaatg ctatTTTTgc agtgatatgt gatgttctgg gaagctcggc tggagagaag 120
tcgaaggaat gccagctgca catcaaggac atcttcagga agttcaggat tgccgtagct 180
aaactgaaaa ccaccatcca tggactctcc aaaccaaagc tgtttcttct cagcactaga 240
atctgtccac cagtgtttcc gtggaacatt caaaggattg gcacttatgc atgtttcccc 300
agtttccata ttacagaata ccttgatagc atccaatttg catccttggg tagggtoaac 360
ccagtattct ccactcttga gttcaggatg gcagaatttc aggtctctgc agtttctagc 420
gggggtttta cgagaacat caggactaat gaggttttct atttgtccat taacagactt 480
gagtgaagtc ataattctcat cgggtgttgat ttgaaatcc attggttcat ctccataata 540
cggggcaaaa cggccagctt tttcacctcc aatcccagca atggcagcgg ctccaacacc 600
accacagcaa ggaccagggg caccaggagg tccaggaggg cctggttgcc ctgggtggcc 660
tggggagccc tcagatcctc tttcacctct gttac 695

```

<210> 465

<211> 73

<212> DNA

<213> Homo sapiens

<400> 465

```

caggtccaga gctcccaggt ttccagggtg cagtcctccc agtcccagag ctcccagggt 60
ttcgggtttcc agt 73

```

<210> 466

<211> 507

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(507)

<223> n = A,T,C or G

<400> 466

```

agcactggca gaggnagcca aatatagtga tgtgcgccag agataagtat tctcctctcc 60
aagcatattg ctatacaaga ctttaaagac ttcatataaaag ccaaacttgc agagtccctg 120
catggagtag ccaaggaaag tcggagccca tcttttagcc aaaccacgaa caccatcctc 180
tttaagtgtg actgagaatc cgttaaatat gcccttgtag ttttgggggg ccacctgcat 240
acggcatttc actaaatcca ggggaaccac agcagtgtgt gtcagaccac aacttaagac 300
cccaccaaag ccacacagtg cataataactt cgcggagcca aattcacaac tgtactcttc 360
cacggcggcg gctgccaggt tgcgagggcg gcggggctgg cccgtgggccc ctggggagct 420
gctgcggagg tccccgagac catcgtgcac canctgcaga tgtggcgtgt tgaagggggt 480
cgcccgcgcc aggtgcgcca cggacga 507

```

<210> 467

<211> 183

<212> DNA

<213> Homo sapiens

<400> 467

```

cctcatgagc taccgggcca gctctgtact gaggtcacc gtctttgtag gggcctacac 60
cttctgagga gcaggaggga gccaccctcc ctgcagctac cctagctgag gagcctgttg 120
tgaggggagc aatgagaaag gcaataaagg gagaaagaaa aaaaaaaaaa aaaaggggcg 180
ccg 183

```

<210> 468

<211> 129

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(129)

<223> n = A,T,C or G

<400> 468

```
gcggccgcgt cgaccggcgc cgtcgggnc cgggcccggc catggagctg tggacgtgtc 60
tggccgcggc gctgctgttg ntgntgctgn tgggtgcagtt gagccgcncn gccgagttct 120
acnccaang                                     129
```

<210> 469

<211> 243

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(243)

<223> n = A,T,C or G

<400> 469

```
gcggccgcgt cgacnngcca tggagactgt ggcacagtag actgtagtgt gaggctcgcg 60
ggggcagtg ccatggaggc cgtgctgaac gagctggtgt ctgtggagga cctgctgaag 120
tttgaaaaga aatttcagtc tgagaaggca gcaggctcgg tgtccaagag caccgagttt 180
gagtacgcct ggtgcctggt gcggagcaag tacaatgatg acatccgtaa aggcacgtg 240
ctg                                           243
```

<210> 470

<211> 452

<212> DNA

<213> Homo sapiens

<400> 470

```
cctcaagtac gtccggcctg gtggtgggtt cgagcccaac ttcattgctct tcgagaagtg 60
cgaggtgaac ggtgcggggg cgcaccctct cttegccttc ctgcgggagg ccctgccagc 120
tcccagcgac gacgccaccg cgcttatgac cgacccaag ctcacacct ggtctccggt 180
gtgtcgcaac gatgttgctt ggaactttga gaagttoctg gtgggcccgt acggtgtgcc 240
cctacgcagg tacagccgcc gcttccagac cattgacatc gagcctgaca tcgaagccct 300
gctgtctcaa gggctcagct gtgcctaggg cgcccctcct accccggctg cttggcagtt 360
gcagtgtctg tgtctcgggg ggggttttcat ctatgagggt gtttcctcta aacctacgag 420
ggaggaacac ctgatcttac agaaaatacc ac                                           452
```

<210> 471

<211> 168

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(168)

<223> n = A,T,C or G

<400> 471

```
cttctccgct cttcttanga tctccgcctg gttcggncgg cctgcctcca ctctgcctc 60
taccatgtcc atcagggtga cccagaagtc ctacaagggt tccacctctg gccccgggc 120
cttcagcagc cgctcctaca cgagtgggcc cggttccgc atcagctc 168
```

<210> 472

<211> 479
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(479)
<223> n = A,T,C or G

<400> 472
gccaggcgtc cctctgtctg ccactcagt ggcaacaccc gggagctggt ttgtcctttg 60
tgagacctca ncagttccct ctttcanaac tcaactgcaa gagccctgaa caggagccac 120
catgcagtgc ttcagottca ttaagaccat gatgatcctc ttcaatttgc tcactctttct 180
gngtggcgca gccctgttgg cagcgggcat ctgggtgnca atcgatgggg catcctttct 240
gaagatcttc gggccactgt cgtccactgc catgcagttt gtcaacgngg gctacttctt 300
catcgagccc ggcgttgttg tntttgctct tggtttcctg ggctgctatg gtgctaanac 360
tgagagcaag tgtgccctcg tgacgntctt cttcatcctc ctctctntct tcattgctga 420
ggntgcagnt gctgaggtcc gccttggtgt acaccacaat ggctgagccc ttntctgacn 479

<210> 473
<211> 69
<212> DNA
<213> Homo sapiens

<400> 473
gagcgatgga gcgtgggtag ggaggggtcca cagtgtccac tcgccgtgtg cgaaggttga 60
ctcggtagt 69

<210> 474
<211> 155
<212> DNA
<213> Homo sapiens

<400> 474
gccgccactg ccgggagagc tcgatgggct tctcctgcgc gccgcccggt gtctggccga 60
gtccagagag ccgcggcgcc tcgttccgag gagccatcgc cgaagcccga ggccgggtcc 120
cgggttgggg actgcagggg aaggcagcgg tggcg 155

<210> 475
<211> 282
<212> DNA
<213> Homo sapiens

<400> 475
ggcttcgacg ttggccctgt ctgcttcctg taaactccct ccattcccaac ctggctccct 60
cccaccaaac caactttccc cccaaccgga aaacagacaa gcaaccctaa ctgaaccccc 120
tcaaaagcca aaaaatggga gacaatttca catggacttt ggaaaatatt tttttccttt 180
gcattcatct ctcaaaactta gtttttatct ttgaccaacc gaacatgacc aaaaaccaaa 240
agtgcattca accttaccaa aaaaaaaaaa aaaggcgagg cg 282

<210> 476
<211> 434
<212> DNA
<213> Homo sapiens

<400> 476
ctccaggaca gcgtccagct tgggtgcgtt gaagacgaag tggagcggat ggtttagtaa 60
acgagtgatg gtgctgagcg gcgtgcagtc ttcgggatcc acgaaggcca agtccttgag 120

gtagagcatg tccacgatgt tggagcgctc ctctctgtac accgggatgc gcgtgtggcc 180
gctctgcatg atgctggcca ggacgccgaa gtccagcacg gtgctggcgt ccagcatgaa 240
gcagtcttcg agggggcgtga gcaegtcttc caccgtccgg cagcgcagca cgccttctgt 300
gagatcgctg taggggtcgc cgccgccgcg cgccagctcc agcaccgcgt cccgcagccg 360
cccgggccgc gccgccagct ccagcagctg cccacgggc agcgcgacgg gcagagttag 420
caggacggcc aggc 434

<210> 477

<211> 314

<212> DNA

<213> Homo sapiens

<400> 477

ggcgggcgct agctggctcc gggcagctcg gccttggggg ctccggggcc ccgagacgcg 60
gggcgtatga gtggggcgtg cgctccacgc ggaagtccga gcctoctccc ctggataggg 120
tgtacgagat ccctggactg gagcccatca cctttgcggg gaagatgcac ttcgtgccct 180
ggctggcgcg gccgatcttt ccgccctggg accgcggcta caaggaccca aggttctacc 240
gctcgccccc tcttcacgag catccgctgt acaaagacca ggctgctat atctttcacc 300
accgttgccg cctt 314

<210> 478

<211> 317

<212> DNA

<213> Homo sapiens

<400> 478

aacagagtga tcattocagt taagcggggc gaagagaata cagactatgt gaacgcatcc 60
tttattgatg gctaccggca gaaggactcc tatatcgcca gccagggcc tcttctccac 120
acaattgagg acttctggcg aatgatctgg gagtggaaat cctgctctat cgtgatgcta 180
acagaactgg aggagagagg ccaggagaag tgtgccagtg actggccatc tgatggactg 240
gtgtcctatg gagatattac agtggaactg aagaaggagg aggaatgtga gagctacacc 300
gtccgagacc tcttgtt 317

<210> 479

<211> 171

<212> DNA

<213> Homo sapiens

<400> 479

aggtgctttg ctagatgctg tgacaggtat gccaccaaca ctgctcacag cctttctgag 60
gacaccagtg aaagaagcca cagctcttct tggcgtatct atactcactg agtcttaact 120
tttcaccagg ggtgctcacc tctgcccta ttgggagagg tcataaaatg t 171

<210> 480

<211> 65

<212> DNA

<213> Homo sapiens

<400> 480

ccccagtggt aaggctccca ccctggtaga tgaacagccc ctggagaact acctggatat 60
ggagt 65

<210> 481

<211> 207

<212> DNA

<213> Homo sapiens

<400> 481

```

cacagcgtgc tctgcgggggt cactcccact ttgttagtga tgtggttatc tcctcagatg 60
gccagttttgc cctctcagggc tcctgggatg gaaccctgcg cctctgggat ctcacaacgg 120
gcaccaccac gaggcgattt gtggggccata ccaaggatgt gctgagtgtg gccttctcct 180
ctgacaaccg gcagattgtc tctggat                                     207

```

```

<210> 482
<211> 319
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(319)
<223> n = A,T,C or G

```

```

<400> 482
cacactgtgc ccttccagtt gctggcccgg taaaaaggcc tgaacctcac cgaggatacc 60
tacaagcccc ggatttacac ctgcgccacc tggagtgcct ttgtgacaga cagttccctgg 120
agtgcacgga agtcacaact ggtctatcag tccagacggg ggcctttggt caaatattct 180
tctgattact tccaagcccc ctctgactac agatactacc cctaccagtg cttccaaact 240
gcacaacacc cnagcttnct cttccagnac aagaggggtg cctggtcctt ggcctacctc 300
cccaccatcc agagctgct                                     319

```

```

<210> 483
<211> 233
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(279)
<223> n = A,T,C or G

```

```

<400> 483
acaggcccag tggcgccctag ccttcagctg ctgggctctc ccgagcctgc cttagcccat 60
acaaccactt gatcacgcgg gcattgcgct ccaccaccga cagcccatag ggaacgcgct 120
cccgggcccg ctctcaaca gtcaccgagc tgccggcgga gcagccccct tcagagctgc 180
ccggcccagc actgggcctt gccagggaca cnatatccga gctggcccggt gcc 233

```

```

<210> 484
<211> 194
<212> DNA
<213> Homo sapiens

```

```

<400> 484
agagcccttg ctggggggtg cctgggagat ggggtaagaa gagctttcat ttgtotggta 60
gatagatagc atgtaagggg gtggttgtcc caggaggcag ctgctgacag gtttgctaca 120
cacagccccg gactgtgttg cctgggtgct cattcagaga ggggctatca tctgggagcc 180
tgtgccctg ggtc                                     194

```

```

<210> 485
<211> 67
<212> DNA
<213> Homo sapiens

```

```

<400> 485
tccatatcca ggtagttctc caggggctgt tcatctacca ggggtgggagc ctcccactgg 60
gggaagt                                     67

```

<210> 486
 <211> 70
 <212> DNA
 <213> Homo sapiens

<400> 486
 taccgagtca accttcgcac acggcgagtg gacactgtgg accctcccta cccacgctcc 60
 atcgctcagt 70

<210> 487
 <211> 257
 <212> DNA
 <213> Homo sapien

<400> 487
 actcccgatt gaagcccca ttcgtataat aattacatca caagacgtct tgcactcatg 60
 agctgtcccc acattaggct taaaaacaga tgcaattccc ggacgtctaa accaaaccac 120
 tttcacggct acacgaccgg gggatatacta cgggtcaatgc tctgaaatct gtggagcaaa 180
 ccacagtttc atgcccacg tcttagaatt aattcccta aaaatctttg aaatagggcc 240
 cgtatttacc ctatagt 257

<210> 488
 <211> 378
 <212> DNA
 <213> Homo sapien

<400> 488
 actctgctat ggtgctggct tcctttaaac tcaggataga tgccagggtg gctccgtttc 60
 cgtaagactg acactcgagc tcggcatcag accagttcct cagcttcctg aagtaaccat 120
 agcaattgga cttgtggtaa aaccatccag gagcacagct gggctcctatg atgatatac 180
 ccaggactcc tgttttgccc aggcagctca gcaataggag cagccgcatg cttctggaag 240
 ccattctcct cctaccctga ggatgtagct agtgcaagga tctcagagac cttactagcg 300
 cttctttgaa actcctgggt tctccttgat ctgcaaatct gtytggcaac caagactcta 360
 agggcccctg cttcttc 378

<210> 489
 <211> 429
 <212> DNA
 <213> Homo sapien

<400> 489
 ccgaggtaca cagaagtttg aatcacaaaa cataattacc acaataaaac acagtgttca 60
 agtatcttgg cagagcaatc tgccgcacaa actgcaaatt aaattaacta cacagactaa 120
 aaactatata gcctaccatc aacagttgtg cattataaaa aggtagtctt tttccttttg 180
 ttttaagtca ggaacaggta gattttttaa aatatatata caagctaaca cacacrgcta 240
 tcagcaactaa tgccccccc tcaacttttc ctttttctta tagaaaatgg aaagcttaca 300
 atacctcstc srtymwrgmr scagrcctwc gagccwgcct grasagggtk wgcmktggar 360
 magmtstgkc ctgaggttta gagccgcttt gtgcggggat ggtggaggct aggggtggggg 420
 tgagaaaag 429

<210> 490
 <211> 532
 <212> DNA
 <213> Homo sapien

<400> 490

137

ttggattgcc	acacggctca	cattgcatgc	aagtttgctg	agctgaagga	aaagattgat	60
cgccgttctg	gtaaaaagct	ggaagatggc	cctaaattct	tgaagtctgg	tgatgctgcc	120
attgttgata	tggttctctg	caagcccatg	tgtgttgaga	gcttctcaga	ctatccacct	180
ttgggtcgct	ttgmgtgtg	atatgagaca	gacagytgcg	gtgggtgtca	tcaaagcagt	240
ggacaagaag	gctgctggag	ccggcaaggt	caccaagtct	gcccagaaag	ctcagaaggc	300
taaatgaata	ttatccctaa	tacctgccac	cccactctta	atcagtgggtg	gaagaacggg	360
ctcagaactg	tttgtttcaa	ttggccattt	aagtttagta	gtaaaagact	ggttaatgat	420
aacaatgcat	cgtaaaacct	tcagaaggaa	aggagaatgt	tttgtggacc	actttggttt	480
tcttttttgc	gtgtggcagt	tttaagttat	tagtttttaa	aatcagtacc	tc	532

<210> 491

<211> 567

<212> DNA

<213> Homo sapien

<400> 491

togagggtaca	aaagcccttc	aaaaggagtt	cagcttttat	aaacacccaaa	acactctctg	60
cctgtaaaaat	gtttttgctg	aaatttgtat	cattaactct	caaatttaca	tcttcatggt	120
tgagatacgc	ttttaggact	gtctatgcat	gtagactttg	gtcaactctc	tcctctctcc	180
tcaataaatc	agttaactta	aaaaatata	tgtgaccatt	tttataaaat	acatgttcat	240
aaaacagatc	aacatattta	gcttatacag	aaataaaatt	aagtcaatcc	actcacaag	300
aatttctatt	ttgtaaaaat	gtagcttgta	tttcagtata	ataaaatctg	atgcaaaaaa	360
cctgcccggg	cggcaagtgt	gctggaattc	tgcakatatc	catcacactg	gcggscgctc	420
gagcatgcat	ctagagggcc	caattsgccc	tatagcggcg	cattaagcgc	ggcgggkgtg	480
gtggwtacgc	gcasygtgac	cgmtacactt	gccarcgccc	tagmgcmcgc	tcctttcgcw	540
ttcttccctt	cctytctcgc	cacgttcc				567

<210> 492

<211> 422

<212> DNA

<213> Homo sapien

<400> 492

agtgtgctgg	aattcgccct	tggccgcccg	ggcagggtaca	agactcaata	atcacctgac	60
tgagctccaa	ttaactgagg	agaaaacggg	tggaggagag	ggctggttgc	tattcagact	120
tgataatgag	attgatctgt	cccatggaga	gtgaaagttc	agttccactt	ctgcctcctt	180
ctttccatgc	tgtcctcatg	ctctttatcc	tcacttcctc	agtcccttca	acactcaaaa	240
tctgatttta	tttctctctc	acacgtatca	ggggcagttt	ctgaagttgc	tgaggttgaa	300
ttttcttcac	aaacctctat	aaaacatcag	cagagaacat	ataaatacat	tttgatttagc	360
atacattgca	aaatttctcc	cacaatgtca	ggggatgaaa	gcagggtggtc	cccactgaga	420
gt						422

<210> 493

<211> 318

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(318)

<223> n = A,T,C or G

<400> 493

agtgtgctgg	aattcgccct	tagcggccgc	cctggcaggt	aagctttttt	tttttttttt	60
tttttttgat	gattaacatc	tttaattcaa	atgkaaaagt	tcaatacaag	ccattttatag	120
ggcttgagat	ttgttggtct	tttaaaaaca	araaatgggg	aatgcaaca	aatgacctt	180
tccacttttc	aaaagctttc	aagtaaagga	tagatcatag	ggccataaaa	gatccattta	240
atsaaaccca	cttttyaccc	cctaccaatt	gtcttacacc	cantccacaa	tcttaataca	300

tattcctgaa natattaca 318

<210> 494
 <211> 360
 <212> DNA
 <213> Homo sapien

<400> 494
 accttttact acaacaagta aacatgcata ataaagtagg attcatccaa tgtctgacct 60
 ttctttgcat caaaagaaca ttccggcca ggcacggtgg ctacgcctg taatcccagc 120
 actttgggag gccgagccag gtggatcacg aggtcaggag atcgagacca gcctgggctaa 180
 catggtgaaa ccctgtctct actaaaaata caaaaatgag ccgggcatgg tgggggggca 240
 ccgtagtccc agctacttga gaggctgaga caggagaatg gcgtgaaccc gggggggcgga 300
 gcttgtagtg agccgagatc gcgccactgc actccagcct ggtgacaga gtgagactcc 360

<210> 495
 <211> 329
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(329)
 <223> n = A,T,C or G

<400> 495
 gaggtctggg atggggcttc actgctgtga cttcctcctg ccaggggatt tggggctttc 60
 ttgaaagaca gtccaagccc tggataatgc ttactttct gtgtgaagc actggttggtt 120
 gtttggttag tgaactgatgt aaaacggtt tcttggtggg aggttacaga ggctgacttc 180
 agagtggact tgtgtttttt ctttttaaaag aggcaagggt gggctggtgc tcacagctgt 240
 aatcccagca ctttgagggt ggctgggant tcaagaccag cctggccaac atgtcagaac 300
 tactaaaaat aaagaaatca gccatgaaa 329

<210> 496
 <211> 292
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(292)
 <223> n = A,T,C or G

<400> 496
 acctgggatg aggtgggtgg agctttgaat ctaccactat ccaggccaca cacctagaag 60
 ctctggtttc attgtttcat tgatttcatt gttttgattg atgctgacct taggcagcag 120
 agttttcaat gctotccagg tgtttctaaa gtgcagacaa gtttangacc gtgcttgagg 180
 gtgaagggca ggactgtgat ggggaggggc aaatatgggg cccttggggg gcaggcaatg 240
 gtttccttg acctgaatgg gggcttcaca ggtgttgcac atacatatac gt 292

<210> 497
 <211> 549
 <212> DNA
 <213> Homo sapien

<400> 497
 tcgaggtagc gaccatagag caagaatcaa gattctgcta actcctgcac agccccgtcc 60
 tcttcctttc tgctagcctg gctaaatctg ctcatattt cagaggggaa gcctagcaaa 120

ctaagagtga	taagggccct	actacactgg	cttttttagg	cttagagaca	gaaactttag	180
cattggccca	gtagtggcct	ctagctctaa	atgtttgccc	cgccatccct	ttccacagta	240
tgcttcttcc	ctcctcccct	gtctctggct	gtctcgagca	gtctagaaga	gtgcatctcc	300
agcctatgaa	acagctgggt	ctttggccat	aagaagtaaa	gatttgaaga	cagaagggaag	360
aaactcagga	gtaagcttct	agcccccttc	agcttctaca	cccttcggcc	ctctctccat	420
tgctgcacc	ccaccccagc	cactcaactc	ctgcttggtt	ttcctttggc	catgggaagg	480
tttaccagta	gaatccttgc	taggttgatg	tggggccatac	attcctttaa	taaaccattg	540
tgtacctgc						549

<210> 498

<211> 412

<212> DNA

<213> Homo sapien

<400> 498

cttgaagctg	ggaggtggag	gttgacagtga	gccgagatca	caccactgta	ctccagcctg	60
ggcaagagaa	tgaactctct	tctcaaaaac	aaaaataaaa	acaaaaaaa	aactcttgtc	120
attctggaaa	tgccacaat	tcagtcttca	cctgcctcca	tcctcatgaa	ggcaccaggg	180
gagcgcggtg	ggctcacctg	atttcttggt	taggtctgtt	ctgttccctt	tttatgcggg	240
gtctgtcggg	gggcaactg	ccaatgtgag	gggtccaggc	tcctatgtag	cctcttaacc	300
agctcagtgc	caggaagggt	ggactttgac	aaaaaccac	ctcaaactct	cactcccaa	360
cctggagtgc	aacctgtggc	aagctcccta	ggctctctgg	gcctcagctt	cc	412

<210> 499

<211> 447

<212> DNA

<213> Homo sapien

<400> 499

acttttaaga	atatactttg	atttaatatg	tatgttagta	aaactccacg	tggttgaacc	60
attattatgt	ttttgttttt	aaaatgggga	tgtaatacta	ataaccacta	cctataaaat	120
aaagcacaca	attgttccgg	cgatttttaca	aatctttttt	tccagggtgta	aagtctacaa	180
aaattccaaa	aaattagaga	acactgaaaa	catattaaag	tttgacatcc	aactttatag	240
tatttccatg	ttaccctgaa	agataactta	aaaaatatgg	ccttcttaga	acaggccact	300
ctgctattat	aaaaaatctg	tgacagcaag	aaattgtatc	actgatatgt	ggaatttttg	360
taaatagtgt	tctctccaaa	tcattagaaa	aatgttcaaa	aataaaaaca	aaataaaata	420
tggtggtggt	ccctaaacta	ttttgaa				447

<210> 500

<211> 527

<212> DNA

<213> Homo sapien

<400> 500

gtttgcttct	tgcatctgat	taactagaat	atttctcttt	ccccctttta	atttgtgatg	60
tcacttgacc	ccatttatgt	gtaggagcac	tacaccattg	gtttccaata	ctgcacacat	120
aagatacata	cttgtgtgca	gaaagtatct	tcctccaggc	ttgtaatacc	cttcacatgg	180
aagattaatg	agggaatct	ttatatctctg	tataaaaaca	aaagcaaatt	tatatactaa	240
aatcatttgt	ctaaaaattt	aagttgtttt	caaataaaaa	ttaaaatgca	tttctgatat	300
gcactgattg	tggtgctctc	agcttttttt	gctctctatg	agtgactact	taagtcactt	360
gttgagaggg	attatttact	aattatatac	ttctcattcc	tgtaactcca	ttccctttaa	420
acagtgggtga	tatcaaatat	acttccatcc	attgaatggg	gtatttttaa	caacaacaaa	480
agtgatatac	taaaaaatgt	attgcttaag	gcttattgaa	tcatttt		527

<210> 501

<211> 304

<212> DNA

<213> Homo sapien

<400> 501
gaggttgccg accaaagaga ccattgagca ggagaagcgg agtgaaatth cctaagatcc 60
tgaggagattt cctacccccg tcctcttcga gacccagtc gtgatgtgga ggaagagcca 120
cctgcaagat ggacacgagc cacaagctgc actgtgaacc tgggcactcc gcgccgatgc 180
caccggcctg tgggtctctg aagggaaccc cccccaatcg gactgccaaa ttctccggtt 240
tgccccggga tattatagaa aattatttgt atgaataatg aaaataaaac acacctcgtg 300
gcaa 304

<210> 502
<211> 425
<212> DNA
<213> Homo sapien

<400> 502
actgattgtc atcctgactt tggcattggc agctcttata ttccgacgaa tatatctggc 60
aaacgaatac atatttgact ttgagttata atatggtttt gtgacttatg agctgtgact 120
caactgcttc attaaacatt ctgcattggg tataatctaa gaattgttta caaaaagatt 180
atthttgtatt tacccttcat tcctthtttt gatccttgta agthttagtat aaatataatc 240
agacattcag actgtgtcta gcagttacgt cctgcttaaa gggactagaa gtcaaagttc 300
cttgtctcac tatttgatct gctttgcagg gaaataactt gthttttctc atgtttcatc 360
ttctthtttat gtaattttgt aatactttcc tatattgccc thtgaaatth ttggataaaa 420
gatga 425

<210> 503
<211> 256
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)... (256)
<223> n = A,T,C or G

<400> 503
accagcagtg tgtcagggtc tgcagagcgt tcttgagaaa ggccactga ggcaggttcg 60
tgccctgctg cggccagcct gactagaccc caccctgagg tcctgcattt ctcagtcggt 120
gtgtaatcac gttccagggc ccaaagccca gctctttgtt cagttgactt actgtttctt 180
accttaaaaa gtaattgtag atggaaatca gttgtgtttg gcangagaat caataaaaaat 240
ctttgattca gacagc 256

<210> 504
<211> 255
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)... (255)
<223> n = A,T,C or G

<400> 504
actgttaatg atgttaatga thttthttta aactcatata ttgggattth caccaaaata 60
atgctthttga aaaaaagaaa aaaaaacgga tatattgaga atcaaagtag aagthtttagg 120
aatgcaaaat aagtcatctt gcatacaggg agtggttaag taaggnttca tcacccattt 180
agcactgctt thctgaagac ttcagthttg ytaaggagat ttaggttkta ctgctthtgac 240
tggtgggcct ctasa 255

141

<210> 505
 <211> 485
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(485)
 <223> n = A,T,C or G

<400> 505
 agcttggtcc gagctckgat cccctagwaa cgccgccagt gtgctggaga attccccctt 60
 agcgtggtcn ttgcccgagg tacagaaaac ccaaaggcaa ccacatagca tatgtaaaat 120
 gtgcaaatca ctttaaaatg caagttattc tatagcattt gcaagataga atttcactgn 180
 aattagggaa tctagtctcat cctaacttaa tagtcttttg catgtataga caatgcaatt 240
 ctacaaggca caactcagcg ttgatgctaa agtatgaaac acatcctcag attattttatt 300
 tgaaaatatt aaaatagcat cgttttattat tttttaatga gtcattgagct catttctaaa 360
 gcttcataaa gcattacact gataacatat gtgtggtcag gacaaactgt tccctgaact 420
 taagaggtga aggacaagac cccatattat tatcctgtat taaaaaagga aatatacata 480
 tatgt 485

<210> 506
 <211> 230
 <212> DNA
 <213> Homo sapien

<400> 506
 acaactccaa aaggagacat tggagaagaa ccaagctggg tctataagga attgcacatg 60
 agatggcaca catatttatg ctgtctgaag gtcacgatca tgttaccata tcaagctgaa 120
 aatgtcacca ctatctggag atttcgacgt gttttcctct ctgaatctgt tatgaacacg 180
 ttggttggtt ggattcagta ataaatatgt aaggcctttc tttttaaaaa 230

<210> 507
 <211> 179
 <212> DNA
 <213> Homo sapien

<400> 507
 acctacttct ccacaccgct gttgcttggg aaaaagggca tcgagaagaa cctgggcatc 60
 ggcaaaactct cctcttttga ggagaagatg atctcggatg ccatccccga gctgaaggcc 120
 tccatcaaga agggggamta tccsgtgaac accctgaaaa gakccgctgt gacgggtg 179

<210> 508
 <211> 321
 <212> DNA
 <213> Homo sapien

<400> 508
 acagagtttt atataaattt aaaccaattt ttaaaacaaa actgctggaca ccaccataaa 60
 aatggaatca aaagaaagtt aatttatgaa attaagaggt cagcagaata tactcagtga 120
 tggaagacac ttgggaaagt ctttttaata gaacaagaac gatcttaatt taagaatatt 180
 atcctggttt aacaacagtg ccctgtttac aacagattgt gccctatctc atctgcagcc 240
 gaggaataaa ggattctgat tagaaagagg gttgcctaca gattagtaag caattccttg 300
 gatcttatgc acagaacttg t 321

<210> 509
 <211> 176
 <212> DNA

<213> Homo sapien

<400> 509

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acgtgggata cgggtcatgg gcagagctcc tggcctcagt gatgcctcct gatctatoca    60
taggcctgga agatcagcac tgggatgacg atgagcagaa tggtcatgag gatgcccasa    120
atcaggggccc acatgttcag gcacttggcc ggtggatgca targcctggg cccctg      176
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<210> 510

<211> 298

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(298)

<223> n = A,T,C or G

<400> 510

```
accaacttta tatcatatgt ttatacaatt taattttaaa attcatttta aggaagacag    60
ataatttgaa agacttttgt ttttcttgac ttaattcatg aagtatcatt ttttgactga    120
gtctccattt acttcattct taatgattat tgtcatccct ttaaactctgt gcctttttct    180
tcttgagcga agctgtttga gtaaaccctgt tgaagagtgt ttgtgtcttt tgtgcttttt    240
tgttgntatt aaaacaccaa ctaaacccta tagtcaagac aaggctctat gtttctgt     298
```

<210> 511

<211> 345

<212> DNA

<213> Homo sapien

<400> 511

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acagattttt gtatagctga taagattctc tgtagagaaa atacttttaa aaaatgcagg    60
ttgtagcttt ttgatgggct actcatacag ttagatttta cagcttctga tgttgaatgt    120
tcctaaatat ttaatggttt ttttaatttc ttgtgtatgg tagcacagca aactgttagg    180
aattagtatc aatagtaaat tttgggtttt ttaggatggt gcatttcggt tttttaaaaa    240
aaattttgta ataaaattat gtatattatt tctattgtct ttgtcttaat atgctaagtt    300
aattttcact ttaaaaaaagc catttgaaga cctaaaaaaa aaaaa          345
```

<210> 512

<211> 459

<212> DNA

<213> Homo sapien

<400> 512

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acttatttca acaattctta gagatgctag ctagtgttga agctaaaaat agctttattt    60
atgctgaatt gtgatttttt tatgccaaaa tttttttagt tctaatacatt gatgatagct    120
tggaaataaa taattatgcc atggcatttg acagttcatt attcctataa gaattaaatt    180
gagtttagag agaattggtg tgttgagctg attattaaca gttactgaaa tcaaatattt    240
atttgttaca ttattccatt tgtatttttag gtttcctttt acattctttt tatatgcatt    300
ctgacattac atatttttta agactatgga aataatttaa agatttaagc tctgggtggat    360
gattatctgc taagtaagtc tgaaaatgta atattttgat aataactgtaa tatacctgtc    420
acacaaatgc ttttctaatt ttttaacctt gattattgc          459
```

<210> 513

<211> 422

<212> DNA

<213> Homo sapien

<400> 513

143

```

gccccgtagt gatgagcact gactgggttca ctggccacat tttagttott cataataata 60
ggccacaaaa gggctctgtg gtttgccctcc atgtgcaactg gcccctcccc acccctaggg 120
ggcactcagt agctgtctgag aaggcctgtc cacgaggctg ttggaacccc tccaataaat 180
acttagaggt agtgtatctg atgcttggtt tctgtggagaa aattgtattg gagaacttaa 240
aacatcacga atatttttaa taggatccgc agacacccaa aggagaagct tggctctttc 300
caggatattc caacttgagt tcagcccaaa gcctttgaaa ggaatgcatt accacatgac 360
cacatgctga gaccccatgg ggtctaacac gggacctaag aaagtctctg cagccagata 420
gt 422

```

```

<210> 514
<211> 326
<212> DNA
<213> Homo sapien

```

```

<400> 514
accagtatag taatatctgt atactaacta gggctttgta ttgtcaataa ttttttaata 60
atTTTTtaat gaggtattta ccaactgaaga aatatgataa tataaaacca tcaaatttta 120
taattgagat gatactctgg aaaaacatgt catttcattt tcagaaaact cttaagctct 180
cttcagtcct tgtaatgitt ctgattgcat gtttcttcat gaaaagtatg ttgttgtttt 240
gatagtaata ataataaatg taggctcagt tctttcccag gattttcatc aaaaagcttt 300
aagtgcctaa ccctgcttgt ctctgt 326

```

```

<210> 515
<211> 323
<212> DNA
<213> Homo sapien

```

```

<400> 515
accagatgta gctaggaaaa cccaaacggt ccttggatcc tgagacagct ggtaagcacc 60
caggccggct agactgccaa agagcagccc tgcagccagg gacggcacgc tgcctgcttt 120
tacatagcca atgatccac cagaagcaac cagtgtctgc tagccaaagc caaaccaatg 180
caagggcact actgagccag tgcctctgcat ttttctcttc tctgtccaga caggagacta 240
ccccaggcct gcaccggctc cacgaaggcc ccggtgtgtc acaagggcgc gcaagccgca 300
ggaatgactg cgaggtgtcg ccg 323

```

```

<210> 516
<211> 403
<212> DNA
<213> Homo sapien

```

```

<400> 516
accccgttgg ggttcatttc ctgcccaga agctggatga ggcagtggct gaagcccacc 60
tgggcaagct gaatgtgaag ttgaccaagc taactgagaa gcaagcccag tacttctaaa 120
tactgagtga atacatcaca gattgcataa agtgcattat tgcaagttgt tgtcatccat 180
tcagctttct ctgtctgttg ttctggcaat ttcatattgt caaagattct gaaaacaatt 240
ctaaataaat cctgccacca gtgtttctca taagtgtggc catatgtttt cattatttca 300
aacattactg ttaaaccocct ggttcttaca tctaatttgc atctattgat gatacaggat 360
aactcaaaga gaattgggaa ccatcctctc acccacaccc tgt 403

```

```

<210> 517
<211> 360
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(360)
<223> n = A,T,C or G

```

<400> 517
 acctgaacga agtcgcgggc aagcatggcg tgggccgtat tgacatcgtg gagaaccgct 60
 tcattggaat gaagtcccga ggtatctacg agaccccagc aggcaccatc ctttaccatg 120
 ctcatctaga catcgaggcc ttcacccatgg accgggaagt gcacaaaatc maacaaggcc 180
 tgggcttgaa atttgctgag ctggtgtata ccggcttctg gcacagccct gagtgtgaat 240
 ttgtccgcc ctacatcgcc aagtcccagg agcgagtgga agggaaagtg catgtgtccg 300
 tcctcagggg ccaggtgtac ctgmcgggc gccnctaac ggcgaattmt gcagatatcc 360

<210> 518
 <211> 255
 <212> DNA
 <213> Homo sapien

<400> 518
 cataaatatt atactagcat ttaccatctc acttctagga atactagtat atcgctcaca 60
 cctcatatcc tccctactat gcctagaagg aataatacta tcgctgttca ttatagctac 120
 tctcataacc ctcaacaccc actccctctt agccaatatt gtgcctattg ccatactagt 180
 ctttgccgcc tgcgaagcag cgggtggcct agccctacta gtctcaatct ccaacacata 240
 tggcctagac tacgt 255

<210> 519
 <211> 449
 <212> DNA
 <213> Homo sapien

<400> 519
 accttcctct caattttgct gtgaacctga aatggcttta aattaatact cttatTTTTT 60
 atttaattta attacataaa ttaaaccctta ccatgaccaa attgtgttag gacggcctgc 120
 tatctacagc acagtgtgtc atttgcagat ttgtggttac ctataccacg ctaggtgttt 180
 tgacatgttt agtatttctg ctttacagtg ctgaattcca tattttagaa gctatgaaag 240
 tccTTTTatg aaaaagttac tgattgcttc tcagttatta ggaaaacagt tgtttcacia 300
 ttattatgta gatatgatgc ccaaatatca tttttagtat atcttgtcga tctttaagtt 360
 gttactattg tgttattcat gtctttaaat cagataccaa atatttttta ggaaagaaaa 420
 atgttattac tgtcatttag ttggctttt 449

<210> 520
 <211> 92
 <212> DNA
 <213> Homo sapien

<400> 520
 acccccatca cagcagtcaa acagcctgag aaagtggcag ctaccaggca ggagatcttc 60
 caggagcagt yggcaryagg gccagagatc og 92

<210> 521
 <211> 123
 <212> DNA
 <213> Homo sapien

<400> 521
 acagagggga caacaatgaa tcagaacaga tgctgagcca taggtctaaa taggatcctg 60
 gaggtgcct gctgtgctgg gaggtatagg ggtcctgggg gcaggccagg gcagttgaca 120
 ggt 123

<210> 522
 <211> 303
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(303)

<223> n = A,T,C or G

<400> 522

acaaaaaaaaat gaatgttaca aaaatcacgt aaaaaaaaaact aggctcaagg aagcagccgc	60
ccttgcaaga gggctcaagg cacctgagag gctgagaaga ggccaacctg gccatgggcg	120
tggctgcatg gacagctctt ccctcctgcc cttccccaga tgcccttccc tctgccccg	180
aggggcacac tccctctccc caattacagg tgctacaaaa ctgccttgaa taccaccgcc	240
aaggcactgc cagagatgaa atggggccctg agcagangcc tcangctctc cctccccctg	300
agc	303

<210> 523

<211> 424

<212> DNA

<213> Homo sapien

<400> 523

acagtgcattg gtgctgtcac ttggaaagcc tttcaatgtt gtcttcagat tgttgtgatg	60
aatatgaaac atgcagaccc tcctttataa agaaaaagac cttaaaactt gaatatgaga	120
taattttaca ttttaaaagt ttatttgatt ttcattttat tcactttcaa agccctttca	180
aatagaaaag gtatgaactt ttggggggat aatttatgta tcgtaaaactt attagaacaa	240
aatattcctg atgtataatg agttgtttta tttatacaac tttttcaatg gtagtttgca	300
ctattcttta ttatgttaca ggtttattta ttatgaaaca aaggaatatg tattttatgt	360
attttaccat gcataggtta actctttgcc acagatttat tggctctgat acacctaaaa	420
taaa	424

<210> 524

<211> 172

<212> DNA

<213> Homo sapien

<400> 524

acaatttcatt tgcagacaca aagacttaag agtttcaaag aattttttta aataaaaaaa	60
aaattttcac ttattcctca caaaatcttc acttttgtaa ctatcccaat tgaagctaca	120
cactgaattt attaatacag cattaagttt ctttgtgtta aaaaatcttt gt	172

<210> 525

<211> 256

<212> DNA

<213> Homo sapien

<400> 525

actccttccc agttttttct ttatactgag ccttcagggg cagtaagcat tctacagctt	60
catttatctt agccttaggg gatctttcag ctttttagctt acgaaccacc tccccttggtg	120
cagcaacttc atcatacaga gatttacttt ccagaatact tgctgaggaa ttagaagaaa	180
tattctgtcc tatttcagca ggagggtttc cagggtttata ttcttggtcca gttttctcct	240
tatattcaag ctttca	256

<210> 526

<211> 479

<212> DNA

<213> Homo sapien

<400> 526

actggagatg	tatttgataa	ccaagggttt	aggtaaattt	tcaccagtat	tagttctatt	60
tgcaaaactga	aaaaatgttg	aggcttaata	taaaataacc	acattagtga	acattatatc	120
tcttagaaga	aaggccatat	tttgotcctg	cttctgtaaa	aataattatt	gtttgaaggg	180
gaaataaatgg	tagtgtgacc	tttcacttaa	ttcctactcc	cttaattgtga	gagagacaaa	240
atgagctgaa	gaaggaaaat	tctggagtta	cactccacaa	ccttgaacat	actgacggac	300
atctctgttt	tgacaacgat	ttctccatgc	cacccatgct	ctaattgcctt	gtggatcacg	360
gacaaccctc	tttgacaag	ctacagcatc	agcgatgtta	tcttgacgca	aagcactgca	420
ggataaatga	caggcattaa	ctgctcctgg	ggttttgcca	tcattacacc	agtagcggc	479

<210> 527

<211> 220

<212> DNA

<213> Homo sapien

<400> 527

accaaattga	agggtttaga	ggccctcaaa	tgggcatcac	tcataaaggg	aattttcatg	60
gtttaatata	gaaattactc	taatgtgaga	acacaacatg	ggaactattc	aaaatacacc	120
tttctatgca	aaattgagtt	tgyatctatt	ttagcatttt	aaatgagcac	tctgcaactg	180
agaccaata	tcaatcatct	cttgaggttt	tctactatgt			220

<210> 528

<211> 373

<212> DNA

<213> Homo sapien

<400> 528

acamcatcga	tgaaattcag	acatacaatg	taaagttgaa	ataatcccaa	attattttac	60
attatttatg	tatactttac	aaataacaca	aatatggaaa	tgttttcttg	gaaagctgtt	120
ggaactgtaa	gcactgcaac	gtatgaaaga	aacatattta	gcaataaaaa	atttaataat	180
atcctacaac	tgaattagtt	gcataattat	accattcaaa	atcttgattt	taacctcatt	240
cactcctttg	aaaaatacat	tcctcttttg	ttcttttaaa	tgcaaaaatta	gtggcagttg	300
cagcaaaaaac	gccgaaattc	tataagaaaa	aaactgattt	accccaaaaca	tatcattcag	360
cacaaactgc	ggt					373

<210> 529

<211> 344

<212> DNA

<213> Homo sapien

<400> 529

acattttctaa	gtcaaacact	tgtgactttt	gcttttaatto	catgaatgtt	cctgcctcct	60
tgatatttgt	atttatttct	tttttctcta	gagtagaggt	ataattgtgt	gatatttcag	120
aaatacagat	aaatgattca	aaaagtcaca	gttaaggaga	atcatgtttc	tttgatcatg	180
aataactgat	tagtaagtct	tgccatatatt	ttcctgatat	catatgacaa	atgtttctaa	240
ggtaacaaga	tgagaacaga	taaagattgt	gtgggtgttt	ggatttggag	agaaatattt	300
taatttttaa	atgcagttac	aaattataat	gtattcatat	ttgt		344

<210> 530

<211> 354

<212> DNA

<213> Homo sapien

<400> 530

accattgctc	tttcctagct	aaccctagat	atggcagctc	tttaatgtac	ctgagatcct	60
ggtgcacaac	atagtgtatc	tcatgcgaac	ttcagtgaag	atttcataca	ttggcctcat	120
gacccagagc	tccttgagga	cacatcacta	tgtggattgt	ggaggaaatt	ccacagctat	180
ttaacaactg	ctattgggtc	ttccacacag	cgcctgtaga	agagagcaca	gcataatgtt	240
ccaaggcctg	agttctggac	ctaccccccac	gtgggtgaag	cagaggagga	attgggtcac	300

ttaactccca gcaaaccatcc tctgtccact taggaggaaa cacctcccta tggt 354

<210> 531
<211> 418
<212> DNA
<213> Homo sapien

<400> 531
acacatccca tcttcaaatt taaaatcata ttgtcagttg tccaaagcag cttgaattta 60
aagtttgtgc tataaaattg tgcaaataatg ttaaggattg agaccaccca atgcactact 120
gtaatatctt gcttcctaaa tttcttccac ctacagataa tagacaacaa gtctgagaaa 180
ctaaggctaa ccaaacttag atataaatcc taccataaaa atttttcagt tttaagtttt 240
acagtttgat ttaaaaacaa aacagaaaaca aatttcaaaa taaatcacat cttctcttaa 300
aacttggaac acccttccct aactgtccaa gtatgagcat aactgccac tggctttaga 360
tactccaatt aaatgcacta ctctttcact ggtctgaatg aagtatggtg aaacaagt 418

<210> 532
<211> 583
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(583)
<223> n = A,T,C or G

<400> 532
cgtcccaaca attatattac taccactgac atgaccttcc aaaaaacaca taatttgaat 60
caacacaacc acccacagcc taattattag catcatccct ctactatctt ttaaccaaatt 120
caacaacaac ctatttagct gttccccaac cttttcctcc gacccctaa caacccccct 180
cctaatacta actacctgac tcttaccctt cacaatcatg gcaagccaac gccacttatc 240
cagtgaacca ctatcacgaa aaaaactcta cctctctata ctaatctccc tacaatctc 300
cttaattata acattcacag ccacagaact aatcatattt tatactcttc tcgaaaccac 360
acttatcccc accttggtta tcatcaccg atgaggcaac cagccagaac gcctgaacgc 420
aggcacatac ttctattctt acaccctagt aggtccctt cccctaccca tcgcgactga 480
tttctctcac aacaccnnta ggctcactaa acattctact actcactctc actgcccaag 540
aactatcaaa ctctctggcc aacaacttat atgactagct tac 583

<210> 533
<211> 529
<212> DNA
<213> Homo sapien

<400> 533
gaggtactta ataaccaagt ctcggaacac tgagccatca cctgcaatgt ttcttagagc 60
ccagacagct tgttcaactga tgtgagcatg gggagatgcc aacagagaaa tgaatgctgg 120
gatggcacct ccatctacca cagccttggg ttgttctgat gtcccagaag caatgttagt 180
gagtgcccaa gcagattcaa actgaatggg actacaatca gttctgcccc agaaggacac 240
aaatttcgga atcaaaaccg cccggattat gttgtctatg ggggctgtt tttctctgga 300
aagtagtttc ctggcagctt gagtagcttg gagctgattt tccacattgc tgctatttat 360
gcctttgaca atgtcatcaa cagaccaatt tacagtgcc tggttgttgc ggttttctg 420
cagcggagaa gtagcatcat caggaaatga gcttacattt ctctcttca gcatctggtc 480
atccttctta gctttctca gctccacatt gacctctatt ctgcgacgc 529

<210> 534
<211> 297
<212> DNA
<213> Homo sapien

<400> 534
 actcattaat attatittgt tttgagaaag ccagaaatga ttctaagaaa taaacaataa 60
 taataaaaaga tgtaattaat atactgtatc ccttttaagc caaagcacac tttttacctc 120
 aagactgttc tgactttttac attcttaatt tcctttgtcc aaaataggac cccattttta 180
 atagagttca tttgaattga gttcataatc taaagtcact tttccccaca agatgttttc 240
 atttcagtat ataaactgct aagcggc aaa tgactaagtc agttataaag aatttgt 297

<210> 535
 <211> 373
 <212> DNA
 <213> Homo sapien

<400> 535
 actttccagg gcacagcctg gacgaatgat gccaaacttt ccgggcacag acaaatcaac 60
 cacagttgag ccaaggcgac actcggggct ctggccatcc ccaatttgtc ccccatcaat 120
 aaccaaggac aactgaggcc agagatcctg gaactcctcg acattcagag aactggcctg 180
 ggagctgagg ttggcactag tgagagcaag cggaccctca aacatctgag ccaagtcttg 240
 cataaaagca tgatcaggaa tccgaatgcc tacaagaggc gtaaaagggg ttaggtcctt 300
 gttgagctcc tccgagcgtt ccatcaccag ggtcactggg cctggcagta ggtctttcag 360
 gagccctca ggt 373

<210> 536
 <211> 254
 <212> DNA
 <213> Homo sapien

<400> 536
 acatgctcca ttaaattaaa tgtcatccaa catttatcaa atattgtctt agttacagct 60
 tgataacctat cttaaattcat attcgagcaa aactaggccc cgaaagtgcg tttgtggctc 120
 tgcacctcca gaagtgaagt caaaaaacct gcagctcatc agaactgcaa caataactct 180
 taatatittc ttgtgacaaa aaaaaaaatc aagtttactt caatatattt tcaaatattt 240
 actggaagta atgt 254

<210> 537
 <211> 449
 <212> DNA
 <213> Homo sapien

<400> 537
 acagacttgt ttttgagtgt tgagtagcag ggacaaaata agggaatggt attttttaag 60
 aaaattcatt ttcattgttg tctccttcct tttctgtgaa agtcctcata ctgagaaatt 120
 tgtatatttt atattaaatc acttactatt gatTTTTgtt gtgattttca aagggtggatt 180
 cccacagata aaatcttggc tattgcccaa aacatagtaa agggtcacgt gtgacttttt 240
 ataataggaa gaaaattctg cctttgtgag tgcacatgtc cacatttcat cctccttcc 300
 ctcaaaaccc tagagagggg cattaaagaa ttgttgatgt atatgcaatg tctgttaagc 360
 atgcactatg tatttcatcc tcatttattg ggtctgggac tgaagttttt agccagcatg 420
 gacctaacct actttttggg ataaaattc 449

<210> 538
 <211> 328
 <212> DNA
 <213> Homo sapien

<400> 538
 actcagcggc agcatcgccc cacttgattt tggagggatc tcgctcctgg aagatgggtga 60
 tgggatttcc attgatgaca agcttcccgt totcagcctt gacggtgccca tgggaatttgc 120
 catgggtgga atcatattgg aacatgtaaa ccatgtagtt gaggtcaatg aaggggtcat 180

tgatggcaac aatatccact ttaccagagt taaaagcagc cctgggtgacc aggcgcctcaa	240
tacgacacaaa tccgttgact ccgaccttca ccttccccat ggtgtctgag cgtatgtggt	300
cggtctggcga cgcaaaaagaa gatgcggc	328

<210> 539
 <211> 506
 <212> DNA
 <213> Homo sapien

<400> 539	
tgcagggtact ttggcctctc tgggatagaa gttattcagc aggcacacaa cagaggcagt	60
tccagatttc aactgctcat cagatggcgg gaagatgaag acagatggtg cagccacagt	120
tcttttgatg tccaccttgg tcccctggcc gaacgtccag cggagagact gttggcagta	180
ataaatggca aaatcatcag gctgcaggct gctgatggtg agagtgaatt ctgtcccaga	240
tccactgccg ctgaaccttg atgggacccc actatgtaaa gtagacgctt tatagatcag	300
gagattaggg gctttccctg gcttctgctg ataccaggcc aaccaattat taatattctg	360
actggcccg caagtgatgg tgactctgtc tcctacagat gcagacaggg tggaaggaga	420
ttgggtcatc tggatgtcac atttggcacc tgggagccag agcaagcagg agccccagga	480
gctgagcggg gacctcatg tccatg	506

<210> 540
 <211> 519
 <212> DNA
 <213> Homo sapien

<400> 540	
tgcagggtacc tttccttggt tcctagaatt cctaaggagg aacaacaaca aaatcgggggt	60
ttgttcagca attgcaccac atctctaaaa attaaaacat tattcagtaa gtgaagggtt	120
ctgataaaca agtggatcaa actgaatatt tccaattaaag aaagtccaca ataatacagt	180
agtgtattat taccaatagg aaggcctaata agtcgactat tattttttta ggcaagaaaa	240
aagaaaacaa gtgcaagcta tgccaagctt tgggtgaatgc tgtccttggc attgcaagta	300
taaagtttgt ttaaaaagaa aagggaaaaa ttaactaat gcttcaacaa ccacagaata	360
aggttttagga ctgcaaagaa agaggaaaaa aagaaacatt attcctctcc aattatactg	420
ccaagcattc acaagtgagc tagggatcat aaggtttaatt atacatttaa taagggtgtca	480
gggagataac tgctcatttc ttataaaaaa ttaaaatgt	519

<210> 541
 <211> 431
 <212> DNA
 <213> Homo sapien

<400> 541	
acttgaggct tttttgtttt aattgagaaa agactttgca attttttttt aggatgagcc	60
tctcctagac ttgacctaga atattacata ttcctccagt aagtaatact gaagagcaaa	120
agagaggcag gattgggggtc acagccgctt cttcagcatg gaccaagtgg gccttgggga	180
ttgcagcgtt ctgcaagtgg ctgtaggact cgaatttaca gaaagccaca gaggtgcaac	240
ttgaggctct gctagcaagc caccagttag gctattgggt aaccaccttt ctatacagga	300
gattggaatc tactttgtca tttatccacc acagtgacaa aggaaaagtg gtgccgttat	360
gcaatccatt taactcataa acatattact ctgagtaact ggccagccat tcatcggatc	420
cttcattggg t	431

<210> 542
 <211> 502
 <212> DNA
 <213> Homo sapien

<400> 542	
acaaaaagg aaataagaaa gtagtgacag cctatccata caaaaatcaa aaagacacaa	60

150

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aggaagatag aatgagaaac agacctacaa gaatcattaa acaataaaat aacagtaatc 120
tttgtcttca gaaaataaat attttaaaaa tagacttgcc aatcaataca catattga 180
atagagggat tatataaaat tttatatacc aagatccaac ttgcctctct tcaagagtca 240
cttgagatct agtagtgaaa tcagcctgaa agtggcaagt ggaagaagac attttaggca 300
aacatcaacc aaacgagagc agaagagatc aaaattgtat tatacaaaat acatcgtaag 360
tcaacaactc tcttatttta taaaatatac tttatgtcaa aattcacaag agaaaaaagg 420
tcattaaaca ataataaaga tatcatttat tgaaaatgta tgacaaatat gtgcatacat 480
atatttatat gtttgtgtct gt 502

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<210> 543
<211> 452
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(452)
<223> n = A,T,C or G

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<400> 543
actacaaggg cagtaaaaca atgatacact ggaaaaaaaa aaatgcagca ataaacattt 60
gttaaaaaaga ctgatagaat aaataaaact acaaaaaaaaa aaaaatcata caaaccattt 120
ctgaaacccc aagaagtccct ggaatacaga aatgccctcc tccttcaacta tttcacagga 180
agcactgcag gctattttgct taatattgtc ctgggattac atttctaaaat tagtaactgg 240
ttacagctcg gttgtagtgc acaattaaaa tcacactaac ttcactctgaa gtgtcattct 300
acagtttttat ttacacaacc agtgaagggc atgttctaga ataccagctt taatcctttt 360
caaacattaa tataagaagc caaattgtaa tgatacagca aantgaggcc actggtatta 420
atacaggtag caaaggtcca catccaggtg gt 452

```

```

<210> 544
<211> 472
<212> DNA
<213> Homo sapien

```

```

<400> 544
caatcattta taatagaaac accttgacca caagcccttg attgaacatt ttataatatt 60
tcactctactt attaaaacaa ataatttccc ttgggttgga ggggagggtga tttcataaat 120
taattagaaa gccatcttta gcatattgct tatgtctgga tccatgtttc tgaggaaaaa 180
gacattctca ggtgatgtat ttttttcatg cattagtagt cattttttaa aaataatgca 240
tgtttcttta ataattaat ttcacttctc ataagatgcc atgtgaagaa gttgtggaaa 300
tgtagaataa aaagctaaag ctgccaaatt tctgttgaa tcttaaaaaac agctcatgtt 360
tgtttgcctc ctggggttgt ggccatagcct atttgcaatg taatgaagct gcagggttct 420
tgtatagcta aagcgttcaa tgcatttcac gtgctgtggt ggatgtgggt gc 472

```

```

<210> 545
<211> 281
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(281)
<223> n = A,T,C or G

```

```

<400> 545
acttaagcat ttccactttt ggaagaaaag tgtattagta ttttatattg catttcattt 60
aaaaggacag tttttttttt ttttgtaaatt ccattcattg aaatgggttc taaactgtat 120
aatgtaattt ggagcctatt tagtaatatg aattaaatgt cctatgtagt gctacaattn 180

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tygaattaga aagtgatcaa atgtmasaaa aaaattyaaa aattcagccc agaaaacaaa 240
atagggtatt aaattagttt aatgtaaaaag gaattwataa g 281

<210> 546
<211> 423
<212> DNA
<213> Homo sapien

<400> 546
tcgagggtact gagacagaag attgtgtcta cataagcaca agttgtaaca tttcacaact 60
tctaaaagga atgtcaacaa ttacaacgat catgcatacc atggctcgata atcacatttt 120
agaagcattt tcaaccattt ctaaagaaat gcttataaca ttgttatata tagaactact 180
ttcaataaac tgcaaaacat tgatcgactt ttccagtatg agctacagtg tcaacacaaa 240
agggaggcat aaatgtttta tttatgaaat cagaatggaa tatttactgt aaagaaaaat 300
taaaaagcgt tcaataaaag gccattatcg aaccaacgtg aagagcacia ctggaacttt 360
tgagttcatt catcttttaa agctgtcctc tcaataactt cagttctaag cactgaattc 420
agt 423

<210> 547
<211> 399
<212> DNA
<213> Homo sapien

<400> 547
gagggtcttt agcagggtctc aaaagttttc ttctaataara ywtcttggtg ttctatcatt 60
cgtaggtgtt gaatttacca aactttttct atttcaatta ttacattttt actttgttca 120
agtaatatg tatcatatta aatgaacatt gcattgtgaa aataccctgc ttagtcatgg 180
tatgtaatca tcttataacc tttttgtatt ctttttttaa atatttctga gaatttctgt 240
gtctaaattt aaataggatg ttgttttgta atcatcttct gattcttttg tctccttttg 300
gtattattgg ccaatagatg aattaagaaa tgttacctct tctactgctt gaagtttttg 360
tgagaaattg atgtttttca ttaagtgttg atgaaatgt 399

<210> 548
<211> 246
<212> DNA
<213> Homo sapien

<400> 548
aaatgcatta taaatgtttt taattgtgtt ctgttttttg cagtctttta gtgccatgcc 60
aattgttctt atattctata gaagttcgct caaaatactc aacaggggaa taggcagcgg 120
acagtcagaa tggttggaat ttggcctttc taagaaaaac tttattttgc ataagcatgt 180
ggtcagatca ttttgtgcat atgcagcctg gattggatgt taagtaaag cttgttcagt 240
gccggt 246

<210> 549
<211> 413
<212> DNA
<213> Homo sapien

<400> 549
acaaactggt attttatact gttccaatgc cagtaatcaa tttattttct tcattaaaat 60
aatatacaca gaatgtattg ttagttcgat tcttcaaat tttatacata ttacttttct 120
gttaaagaga aaaggataaa atgggtataaa aaaagataaa gctattaatt aagcacgaga 180
gagaagataa atggatattt tccctgtgtg aggctaagac agaagcaaat ctggttaaga 240
aaaatgccac ccacacaaca ggaaatttat ccaaaacaaa acaaaagcag ttatagaacc 300
ccttctctac catcagaagt aatttcacag caataaactt attggttaca acagacatac 360
ttgaacagtt aaggatggga agaaaggctt aagatatcac caaattaaac cgt 413

<210> 550
 <211> 215
 <212> DNA
 <213> Homo sapien

<400> 550
 acataaggtt caaagtttcc tttccttttt ttattttattt tatattttgc aatgtttttt 60
 ttccataata tttaagtttt tcgatgttta gatatttttc ttcggtgaag cacaagtwtc 120
 ttttcatggy ccctgakcaa ttttaaacag ttggaacacc ggtggcactg ataactgcty 180
 tctgggcagc ctcttttagct tggggggctb gtagg 215

<210> 551
 <211> 175
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(175)
 <223> n = A,T,C or G

<400> 551
 ggaggaggag cggtaactac cccggctgcg cacagctcgg cgctccttcc cgctccctca 60
 cacaccggcc tcagcccgcg ccggcagtas aagatgggtga aagaaacaac ttactacgat 120
 gttttggggg tyaaacccaa tgctactcat gaanaattga aaaaygctta tmmga 175

<210> 552
 <211> 298
 <212> DNA
 <213> Homo sapien

<400> 552
 acagtgtata ctatccccac caaaggaaaa aaacattaag agcaaaacaa ggggtggggg 60
 gtgggaatat tgctaaagaa aattctaata agagttatct ataattatag cttttattta 120
 ttatatcttc attcaatcat ttattcaciaa ttagtctaatt tgcattcttg atgaataact 180
 gacttcagca aaggagtcac tccactaagc aaagttcatt tatttttcat gatgttcttc 240
 ttctgatott gagtctttac tctcctggat tcccaagaga actgcattag cctctagt 298

<210> 553
 <211> 437
 <212> DNA
 <213> Homo sapien

<400> 553
 yacaatggct taagcaaatc gcttttagttt tttttctatt taagatttag gacagactac 60
 tcgtctaaaa ttcactatth acagagaagg tcctagggaa caggataact tatttaggtt 120
 tagctctcat aatacaatat ccataatggc tttagaagaa tgtaaataaa taacattggt 180
 aaacagcgta tactgatatt ttctgacaaa ctcatthtct taacatcatg ctgagcaatc 240
 aagaggattc ctctatatat tttaaatttt aatttattct atttcctgat tcacaaactc 300
 ttgctccatg ttaaagcagt tatcaccaat agaacctatg agaaccagt cccatggaaa 360
 cctaacagct tgttttttta atccccattt aaaactcggg tgaacttgat atatgcatgg 420
 ttgaaatatg cgtgggt 437

<210> 554
 <211> 575
 <212> DNA
 <213> Homo sapien

<400> 554

ycgaggtact	tttgacaaca	tttatctgca	tgtccagatc	agcaatgagt	cggcaattga	60
cttctacagg	aagtttggct	ttgagattat	tgagacaaag	aagaactact	ataagaggat	120
agagcccgca	gatgctcatg	tgctgcagaa	aaacctcaaa	gttccttctg	gtcagaatgc	180
agatgtgcaa	aagacagaca	actgaacaaa	ttacaaatga	actttcttgc	acttgcttgt	240
cgccaaataa	aagagaggcc	cattgattcc	tccccaccc	caacactttt	cttttaaagc	300
ttttctccct	ccttgttctt	gtttttcttt	cttcctttcc	ttttctctga	gagttttaat	360
actttcaagg	actttaaaaa	aataatcatg	tttgaattgt	tttctcttat	ttttgtgagg	420
tggtttgaag	gaaggacaag	gtagatctgt	ttagttttgc	agttgaagtt	agatggctct	480
aaacatttaa	ttgtcaaata	atttcaaatt	taatgtcctg	ctttcacatt	gaagggcaga	540
gcctacaaaa	cattgtatat	ttcaaaagac	aaaaa			575

<210> 555

<211> 226

<212> DNA

<213> Homo sapien

<400> 555

accgaaccat	gaccaccctt	ggcaagagcc	ttcatgcacc	tagcaagtag	tcacagcatg	60
catgtgccta	gaattgttac	gtggtaaaat	tatattattg	tgtattccca	ccaacagtat	120
gagaagggtc	acttctccat	acctccacaa	ctctgggcat	ctaaaacttt	taaaatcctg	180
gaatcatagg	caaaaaaaaa	aaaattcacc	catattttcc	tctagt		226

<210> 556

<211> 298

<212> DNA

<213> Homo sapien

<400> 556

acttcatata	agtggaaatca	tatagtattt	gtccttttct	gtctggctta	tttcacatat	60
aatgtcttcc	aggttcatca	tattgtagca	catgtcagaa	tttcattcct	ttttaaggct	120
gaataatatt	ccattatgtg	tataccacat	tttgtttatc	cattcatcca	tcaatagaca	180
tttgggtatt	tccaggacaa	tatattctta	atttaaatccc	acattttaag	acttacaggt	240
aatttaaaatt	caattcaact	tactgagtat	ttactaaggg	taactcacta	tggggaagt	298

<210> 557

<211> 166

<212> DNA

<213> Homo sapien

<400> 557

actaatggtc	tacatccgat	tcaaaaccac	atagttcatt	gatcacagat	gcatgggtatt	60
agtcacgaaa	gtttcagaac	acattgtggt	gattttgaaa	ggtcatttgc	atcttctatg	120
atttcaactt	tatctccatt	taacttgctt	gtaaagtatg	tatgat		166

<210> 558

<211> 461

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(461)

<223> n = A,T,C or G

<400> 558

actocctgtt	ttgagaaaact	ttcttgaaga	acaccatagc	atgctgggtg	tagttgggtgc	60
tcaccactcg	gacgaggtaa	ctcgttaatc	cagggtaact	cttaatgtta	cccagcgtga	120

actcgccggg	ctggcaacct	ggaacaaaag	tctgatcca	gtagtcacac	ttctttttcc	180
taaacaggac	ggaggtgaca	ttgtagctct	tgtcttcttt	cagctcatag	atgggtggcat	240
acatcttttg	cgggtctttg	tcttctctga	gaattgcatt	ccctgccagg	cctaccacat	300
accacttccc	ctggaattgg	ttgtcctgga	agttctgctg	cagagggacc	ttgctcagag	360
gtggggctgg	gatcaggtct	gaggtggagt	cctgggcctg	ggcatgcaga	gcccccaaca	420
gggctaggcc	cagccacagg	agacctangg	gcatgatttc	a		461

<210> 559

<211> 193

<212> DNA

<213> Homo sapien

<400> 559

accagacaga	atcaggaaaa	aaaaattgaa	aataagcata	acactataaa	gaaaacttgg	60
aaaagtga	cacttctaaa	taaaaaatat	acacctggcc	tggaacccat	tacatatata	120
cataatacat	gttataaaca	tatatacagt	aaatgttttg	gtagcaatac	agaccatgca	180
ttggtctttg	tgt					193

<210> 560

<211> 125

<212> DNA

<213> Homo sapien

<400> 560

acacaattat	tctcactctc	cacagaaagg	ctgcttaact	tctcatctgg	wggwggsaag	60
cactaaaatc	ctgattttta	cagaatagta	gkaaaaatgc	ctcagtgatt	taagttgaaa	120
gcagt						125

<210> 561

<211> 325

<212> DNA

<213> Homo sapien

<400> 561

ccgaggtacc	acggcctcag	agtcacagct	ttgtgacatt	agggggcaat	ctccagcttt	60
acgtttttaga	agacagtttg	ttttttgatg	tatatTTTTa	atatccccag	attaaagaaa	120
actcagggca	agtaacacac	taaaagggcc	tttacaattt	ttttcttgct	gttattttga	180
gatgcactctg	ttgcaaaaata	tgtcaatggt	agaaatcaag	ctccttcata	tagggataga	240
tcatttgaaa	tagattttctc	tcaagaataa	tccaattatt	acttttttagt	gtttgcataa	300
attcactcca	gaagtcaccc	acagt				325

<210> 562

<211> 303

<212> DNA

<213> Homo sapien

<400> 562

accagatgga	aatgatattt	gcttcaactcc	atTTTgaatt	tctgcctgaa	ttagctcttg	60
tttcagttct	tcaatttctt	tcttcagttt	agcatttttca	actcgaagtt	tcttctcttc	120
cctcaaaagt	gcctgcaaaa	ttgctttctc	cttaagttaga	gaaacttgct	gcttaagata	180
ttcaatgatt	tgatctgcct	ctgcaccctt	ctgctccagt	ctcttcagaa	cagcatcatt	240
atttgccatt	tttgccaaga	gacggcagaa	aatcatgaag	cggaggacca	cgggttccga	300
gac						303

<210> 563

<211> 279

<212> DNA

<213> Homo sapien

<400> 563
 tcgaggtaca cagtcattga agactctccg gaattcagat ttgaaaccat atattatctt 60
 cattgcaccc ccttcacaag aaagacttcg ggcattattg gccaaagaag gcaagaatcc 120
 aaagcctgaa gagttgagag aaatcattga gaagacaaga gagatggagc agaacaatgg 180
 ccactacttt gatacggcaa ttgtgaattc cgatcttgat aaagcctatc aggaattgct 240
 taggttaatt aacaaacttg atactgaacc tcagtgggt 279

<210> 564
 <211> 427
 <212> DNA
 <213> Homo sapien

<400> 564
 ccgaggtact gtgtagtggt atcagtgtta aaaatggaag atcattatga agaaacaatt 60
 tgtcatttgg gtatatctgt ttctatagga caaggatttg tgtctaaata ttccttactt 120
 gtatctcaga ggactatctg ttaaataaatt gatcttaatg ccagcataag aaatcaaggg 180
 aactatttct cagacatttc tttctctaaa ttaagtaggg tttcaggttc caagtttaca 240
 ttgagagaac tatgttacct gggagagaat gtaaattttt ctaattccca aacaaaacca 300
 ctaatttcta ggaacatttt attgtttata tgcagatcct agagacttct atttcagtgc 360
 ggatcaacaa cttcaaaaat atacagcctc ctatttattt acaataatat ttacatacaa 420
 atgaagt 427

<210> 565
 <211> 214
 <212> DNA
 <213> Homo sapien

<400> 565
 tcgaggtact gggctcttttc cagccaggcc tgcaacgggtg accttaatcc cagctcgcct 60
 catgacatct acagggatga ccgtctccat ttctctgct cctttagcca ggatgaccag 120
 agctcttttg gaagccattt ttatgtttata tgtttacaag cccacacca ggctgaaaat 180
 gaacgcacgc cagcacgcac gcgcgccgtc cggc 214

<210> 566
 <211> 382
 <212> DNA
 <213> Homo sapien

<400> 566
 ccgaggtact tttagttttt tcacataaact ctctaaaggc cttttcaaaa agtctctttc 60
 actggcatca tctactagaa caatttcttc tatcatgtgt cttggtgagc gattaatgac 120
 actatggaca gttcgcagaa gtgtgctcca agcctcattg tggaaaacaa tcaccacact 180
 tgttgtagga agattatctg gatacacctt tgttttacac ccttctaacc taacatctgg 240
 taaagatctg ttgagtgcga tcatctcact tgccattaaa ttgaactgat tgattttaaa 300
 catctctttc atcttttctt gatcctcttt aggaatgacg actggtttcc ccatttctcc 360
 aggaccttca tgaggctttt gt 382

<210> 567
 <211> 271
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (271)
 <223> n = A,T,C or G

<400> 567

cgagggtacaa	ttacccacca	ctggagggtga	ctcagagagg	acccccagag	ggtgtctcca	60
tcttccctat	ttattttcag	cccttgaggg	cttcattgta	gatcaaagcc	aaggcccca	120
ggaagggtgac	atactcctgg	aagttcacct	cctggctcct	gttccggncc	aagtcttcca	180
tcagccttgc	aatttcagca	tcctgcagct	tcgagccaat	ggtgagctcc	ttctggatca	240
gtccttcag	ctccttcttg	ctcagggtgt	g			271

<210> 568

<211> 340

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(340)

<223> n = A,T,C or G

<400> 568

cgagggtcag	tgtatatcc	ttgtttgtga	atccaaatct	ttttcatagg	taatgacaga	60
tgcccttaatg	tgaagcttat	ttataatagc	aataaaccta	actggatttg	gatgaagaag	120
tcttaatact	gacatactgg	atttttaatg	cactggtttg	ttatttggtg	ttctatctct	180
ttttccaggc	ctccagggtg	cacatttatt	tattatgttc	aatactttgg	ttcttagttc	240
ttaaagaatc	aagaagttgt	gtaatctttt	aaaaatatta	tcttgcagat	aaagaaaaaa	300
attaagagtg	tgtttacaac	tgtttnctct	tttttacagt			340

<210> 569

<211> 156

<212> DNA

<213> Homo sapien

<400> 569

gccagggtaaa	ccaagaacttg	gtctcagtga	agaaattcca	gaggtcacccg	gcaaagaagt	60
tcccttctca	tcattctcat	ctcagctatt	aaagatatat	acagttgtac	agtttgctct	120
gatgttggca	ttttatgaag	agacctttgc	agatac			156

<210> 570

<211> 216

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(216)

<223> n = A,T,C or G

<400> 570

acagtactca	gtatatctga	gataaactct	ataatgtttt	ggataaaaaat	aacattccaa	60
tcactattgt	atatatgtgc	atgtattttt	taaattaaag	atgtctagtt	gctttttata	120
agaccaagaa	ggagaaaatc	cgacaacctg	gaaagaattt	tggtttcact	gcttgnatga	180
tggttcccat	tcatacccta	taaatctcta	acaaga			216

<210> 571

<211> 163

<212> DNA

<213> Homo sapien

<400> 571

```

tcgagggtttt gtaatccaag gttctgacta aaagcaaaaa tacacggcat agattgcaac    60
agcaaagaag tgtccaatta aaactagagg gttaggagac aatacagaaa gcagcccaac    120
aggaccgcga acacattcgc caccaagttt tgaaataaag aaa                      163

```

```

<210> 572
<211> 156
<212> DNA
<213> Homo sapien

```

```

<400> 572
gccaacgtgc agcggctgaa ggagtaccgc tccaaactca tcctcttccc caggaagccc    60
tcggcccccga agaagggaga cagttctgct gaagaactga aactggccac ccagctgacc    120
ggaccggtca tgcccgtccg gaacgtctat tagaag                      156

```

```

<210> 573
<211> 414
<212> DNA
<213> Homo sapien

```

```

<400> 573
ctggagccgc tgtggttgcg gtccgaggag tggaagcgcg tgcttttgtt tgtgtccctg    60
gccatggcgc tgcagctctc ccgggagcag ggaatcaccg tgcgcgggag cgccgaaatc    120
gtggccgagt tcttctcatt cggcatcaac agcattttat atcagcgtgg catatatcca    180
tctgaaacct ttactcgagt gcagaaatac ggactcacct tgcttgtaac tactgatctt    240
gagctcataa aatacctaaa taatgtggtg gaacaattga aagattgggt atacaagtgt    300
tcagttcaga aactggttgt agttatctca aatattgaaa gtggtgaggt cctggaaaga    360
tggcagtttg atattgagtg tgacaagact gcaaaagatg acagtgcacc caga          414

```

```

<210> 574
<211> 414
<212> DNA
<213> Homo sapien

```

```

<400> 574
ctggagccgc tgtggttgcg gtccgaggag tggaagcgcg tgcttttgtt tgtgtccctg    60
gccatggcgc tgcagctctc ccgggagcag ggaatcaccg tgcgcgggag cgccgaaatc    120
gtggccgagt tcttctcatt cggcatcaac agcattttat atcagcgtgg catatatcca    180
tctgaaacct ttactcgagt gcagaaatac ggactcacct tgcttgtaac tactgatctt    240
gagctcataa aatacctaaa taatgtggtg gaacaattga aagattgggt atacaagtgt    300
tcagttcaga aactggttgt agttatctca aatattgaaa gtggtgaggt cctggaaaga    360
tggcagtttg atattgagtg tgacaagact gcaaaagatg acagtgcacc caga          414

```

```

<210> 575
<211> 417
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(417)
<223> n = A,T,C or G

```

```

<400> 575
tggtatgggt catataggtt cgggtacaaca tgaagccatg gtcctgggta tggaagaatg    60
agtacttcag acaaacagaa ataaaagagg acactgtgac tatagccaag gaacttttgc    120
gtatagctgt taaggggagg tgcatctccc accagatgtg ggtttatgcc ttacctgctt    180
gacagcctca aaggtcattg gcaagattga atgaatgggc ccacgggggc aaagcaagtc    240
taggaaagcc agtaaatgcc caacctatta gaataaggga gaagaattag aatatcaggg    300

```

aagttttctgg atagaggaca agaaagaata ggctattttag aaaaaaaaag gtgtgggtccc 360
attatttttca ggcttcaccc tanatgacac atgagcaaaa gcccacttcg ccatcat 417

<210> 576

<211> 245

<212> DNA

<213> Homo sapien

<400> 576

ggaagggggg accctgccaa agatgaggct ccagctgccc tggggggagg gtggtggcca 60
ttactagagg gggcctgggt cctctcccca ggggctgcca gcatccaggc caggaagcct 120
ggagccaaga accttctggc tctgagggag caagagctgg caggcggcag ggctggcaca 180
gacagacgga agcagaaagg acagtttggc tgetgtgtct gctgcgcacg cccctcccc 240
ggaca 245

<210> 577

<211> 418

<212> DNA

<213> Homo sapien

<400> 577

gaaaaccctt taatgttggg ctttctttaa ataaaacaga aaggttgacg ctttcccatg 60
gtggctgtaa ggcaagaaca gcagtggagg cgggcgtgtt ctatcgggca gtgctgcagc 120
ccttgactct ggctcaaggt gggcttcctg gaggcagcgg caaggaggca gttctggatg 180
tgcaggcaca gatgtagggg aacaggcaag cgggcacagg gccctgagct gacaagcagt 240
gacccctgca cccagctaga tggggcaccc cctctctggg agctgagggc atcagctgga 300
gcctcaggct gggaccagcc ccaactttgc cttggtgact ctgggccatt ccaggcctca 360
gtttccccac tgtaagggtga ggcattagge aggagggggg ggccccagcc agtgtcct 418

<210> 578

<211> 363

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(363)

<223> n = A,T,C or G

<400> 578

aaagcccaga aggcacttta ttggaggtct ctgcctccat tcacaggaga aaggagctgg 60
gagccccatc ctagggtccc agcatcagcc cactggaggg cctggaacag tccagcactc 120
tgtgggagag gagtggggag gggaatgttt tanaaaaaat agatctctat gtacatctga 180
catatttata tagcacataa attagggagt gctctgaccc ctgcccgtgg agcccaagca 240
ctgagcaggg aggtgaacgc cagtccagaa agaaggtgct ggagcccctg ctctgttctc 300
tccatcacgg ggctccccta gggcctcccc aggcctcctt ggctcagtc aggtttgtct 360
gca 363

<210> 579

<211> 403

<212> DNA

<213> Homo sapien

<400> 579

ggaataatca gctcttctgg ccacacaagta ggaatgatca atgagaactt aacttagtcc 60
tttatttggg gattttttca tcaaacaataa atttcttgaa ttggggagac cacttccctg 120
taactccagt attgccccct ctcaactttag catatattaa ttagcaggtt gggctagaga 180
aatcagctgc tatgcggggt gattattatt attatttcta atccttttcc ttatttgcct 240

```

tctactcccc ttaatctaata ctaaaagctc tgttccatgc aactggagtt ccttatccct 300
ctcttccctt tcccttatata attgaggcta tggggtagga gaaaagtga caaccaccca 360
ccccctttac tcgtgcatta aaattttctta tttacccttt tcc 403

```

```

<210> 580
<211> 403
<212> DNA
<213> Homo sapien

```

```

<400> 580
ggaataatca gctcttctgg ccacaagta ggaatgatca atgagaactt aacttagtcc 60
tttatttggg gattttttca tcaaacaaaa atttcttgaa ttggggagac cacttccctg 120
taactccagt attgccccct ctcacttttag catatattaa tttagcagggtt gggctagaga 180
aatcagctgc tatgcggggtt gattattatt attatttcta atccttttcc ttatttgcct 240
tctactcccc ttaatctaata ctaaaagctc tgttccatgc aactggagtt ccttatccct 300
ctcttccctt tcccttatata attgaggcta tggggtagga gaaaagtga caaccaccca 360
ccccctttac tcgtgcatta aaattttctta tttacccttt tcc 403

```

```

<210> 581
<211> 432
<212> DNA
<213> Homo sapien

```

```

<400> 581
acctgataaa agttaataat ctcttgtagt gaaagctgtc cattaataag gccagtcttc 60
agcaaaaacta aaaccatttt gtctgttagt ctttcctagt ctgacaacgc aatactgttg 120
aaccacagtc aaatataatg acaacattgg atggatagat cagtaccatt ggttacagct 180
gttaaacagg ttctgtcttg gcgccacata aaaacaagcc aataacatcg aataaatcat 240
ggcttttttt ttctttatca caattcactt aagtgatgtt aattatggtc ctgtgcaaac 300
acgttttgta aaggctatct acagtgtaca tggctgagca tgcactatct atagttacaa 360
agatacctgc cagtttatta caatagaata cacagtgtctg aaatggtgaa ctctcccatc 420
ttaatatata tt 432

```

```

<210> 582
<211> 215
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(215)
<223> n = A,T,C or G

```

```

<400> 582
gtttattttca gctttactta aaatttttagt ttcaaatgaa atgaaatgtg aactgaagc 60
ataagaacac aactgaagac tgcaaacac ctaattcatt ttcccagggtt gcttaagcct 120
ncaagcacca ntcaaatatc gnantcnatt aaaagnaggn ctttcccat tgtngccngc 180
ttcngaattgg aacntattta aaacntcaa tttct 215

```

```

<210> 583
<211> 426
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(426)
<223> n = A,T,C or G

```

<400> 583

tgggagcctg	tgggactggg	tgcctctggc	gtgcagaagc	ttctctcttg	gtgtgcctag	60
attgatcgtt	ataaggtctc	ctctcccgcc	cccaaaagtg	gttgatcgtt	ggaacgagaa	120
aagggccatg	ttcggagtgt	atgacaacat	cgggatcctg	ggaaactttg	aaaagcacc	180
caaagaactg	atcagggggc	ccatattggc	tcgaggttgg	aaagggaatg	aattgcaacg	240
ttgtatccga	aagaggaaaa	tggttggaa	tagaatgttc	gctgatgacc	tgacacacct	300
taataaacgc	atccgctatc	tctacaaaca	ctttaaccga	catgggaagt	ttcgatagaa	360
gagaaagctg	agaacttcgg	aaaaggctca	tctgtcacc	tggagaangg	aaactgtact	420
tttccc						426

<210> 584

<211> 431

<212> DNA

<213> Homo sapien

<400> 584

cactgttgc	gttttcagat	acaccagaag	agggcatcag	atctcattat	gggtgggtgt	60
gagccaccat	gtggttgc	ggatttgaac	tcaggacctt	cggagaagaa	gtcagtgtc	120
ttaaccactg	agccatctct	ccagcccaga	tttccttttg	atggtgaagc	attttaattt	180
taccattttg	ctttgaaagg	gcactgctct	atgttctggc	actatcggta	ttctggactc	240
ctcttcgtaa	aacattttct	tataacaaaa	ggtgcactta	cttttatttc	ggtgtgtgtt	300
ttgcctgat	gaacgacttg	acatctcaag	cctacctggt	gtctggagag	gcccgaacag	360
gatgtcagat	gccctagaac	tagagatacc	gaccgttgtg	cgctaccatc	tgggtgctgg	420
gaattgaact	a					431

<210> 585

<211> 412

<212> DNA

<213> Homo sapien

<400> 585

aagagagaaa	gagaacattt	ttataccaag	gagggattga	ctttcagaaa	agagtagact	60
tctctctcct	cccttcctcc	aaaaaaagaa	gttggaacc	ttctgttttt	gtgtgtgtgt	120
ttttggttgt	tctttgtttg	tttttgtttt	tgagatggag	tctcactctg	tcaccacgc	180
tactgcagtc	agcctgggtg	acagagtaag	attctgtctc	aaaagaaaaa	aaaagacaga	240
aaagaaatgg	actctgatgg	aaaagatgtg	tacaaggctg	attatactaa	gcagagggat	300
atttaaataa	atgctaagaa	gagaggcagg	tgaagctcca	ggggagccat	ccttcccaaa	360
tgttcactta	aattttcagc	ggtttgggta	tgccagatgg	tgaacctagg	ta	412

<210> 586

<211> 431

<212> DNA

<213> Homo sapien

<400> 586

aagaaaagg	agccaagaag	aaagtgggtg	atccattttc	taagaaagat	tggtatgatg	60
tgaaagcacc	tgctatgttc	aatataagaa	atattggaaa	gacgctcgtc	accaggaccc	120
aaggaaccaa	aattgcatct	gatgggtctc	agggctcgtg	gtttgaagtg	agtcttgctg	180
atttgacaga	tgatgaagtt	gcatttagaa	aattcaagct	gattactgaa	gatgttcagg	240
gtaaaaaactg	cctgactaac	ttccatggca	tggtacttac	ccgtgacaaa	atgtgttcca	300
tggtcaaaaa	atggcagaca	atgattgaag	ctcacgttga	tgtcaagact	accgatggtt	360
acttgcttcg	tctgttctgt	gttgggttta	ctaaaaaacg	caacaatcag	atacggaga	420
cctcttatgc	t					431

<210> 587

<211> 132

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(132)

<223> n = A,T,C or G

<400> 587

aactttccca	tggtcaaagg	aaaaacaagc	aggagttgag	tggtctgggt	ggggtgcagg	60
caatggagag	agggcataag	ggtgtagaan	ctgaaggggg	ctagaagctt	actcctgagc	120
ttcttacntc	cg					132

<210> 588

<211> 425

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(425)

<223> n = A,T,C or G

<400> 588

gggtctcttc	aangaacctc	agctgaaacc	tntgggggat	tactganttg	atntgnccac	60
cagaacaggn	gngctcgctt	ttgttctgaa	atcaaatacct	cnaaagaccg	ggagaagggg	120
tcacccannc	gtggatcggt	ggcattgtgg	gaaaagggaa	accgnaacgg	cccggatcat	180
tgacaagccn	cgaagttatt	gaagtcctgc	ctcgtggggc	cacagctgct	tggtcttgct	240
cctgacagtt	caaatgcctc	ctttgagcct	agctcgtgag	atgaaagaac	agaagttggt	300
tggaacctag	agccattatc	cacaatcacg	gatggttctc	aagagttgat	tgtaagaaat	360
ttccaaagaa	ggctgcctgc	atagtgggtc	cggctgccct	ttctaggtga	ttggaatcan	420
cccat						425

<210> 589

<211> 425

<212> DNA

<213> Homo sapien

<400> 589

caacagttat	tttattagga	tgtcagccct	gggtccagag	tgagagatag	ggacagggga	60
cagcccagcg	aggctgggtc	gggggtcact	ccaggatgtt	ccaaccacag	gggcagcatc	120
tcctccactc	cacatgctgg	ccaagggcac	agagctgccg	tatcgctgc	caaggggggtg	180
gctcaatgct	gctgccctgg	tcctgtatgg	gcccgggggtg	ccgagaacag	acagcaagcc	240
tcaggcgccg	gtcctttgag	ctttcttgat	ttcctcagag	agcgctcctc	tcagctctgc	300
gtaggcctgg	tccaggctgt	cgtaaagtat	gaccacatca	aacaggcccg	gctccttgct	360
gctctccatg	tcggcctggg	cagcagccag	ccgcttcacc	aggctctcct	cggtttcagt	420
gttgc						425

<210> 590

<211> 425

<212> DNA

<213> Homo sapien

<400> 590

acaagtatac	atataatcta	gataagggct	gtaatgtttc	ctaataattaa	ttactgtact	60
taaaaattta	caggacatga	acataaataa	agctgtttta	aactggcaaa	cgtagtaata	120
gtctgtcatt	cagtacaagg	tatatattatg	ttattttcaa	agccatcacc	ctaaaatcct	180
aagttgccac	tccttaaaacc	taaaaataat	gtcgaaaact	aaagtcataa	atacatgtat	240
acatacattt	gcataatttac	acttatgcag	aaatcatcaa	tatactagag	cccagcttta	300

acactgtcct tcagtttcac acagaaggac ccctaataac tgtaaataata taaatatgtc 360
 aggttaaagg gaaaagggtg tcagggcact tcttgctc tcgtgccat aacctacctc 420
 cacco 425

<210> 591
 <211> 425
 <212> DNA
 <213> Homo sapien

<400> 591
 aagtatgtat gtacaagact caagtaaata gaaaggcagc tttcaatcac aaatcagttt 60
 ttcagatttt actgtggaag catatttaat gcacacattt gaatgttaca cataaataat 120
 tttacagatg gagtccaagt tctggatttt acattagatc tgcataatata agacacttgt 180
 ggtcaaattt caagattggt aaagccagtt tcaagctgct tatattttga gtacaggttt 240
 cactattaca aatatatgat gttaaaactaa caaactcatg accttcaaag atgtcttcgt 300
 cccacgcaca cacatttgta atttggtgctc atttgctatt tcccttcttc tataatcttc 360
 aaattatata gttatgcatt gagtcccta tgcattcac ccatctcctt tatctcagcc 420
 ttctc 425

<210> 592
 <211> 299
 <212> DNA
 <213> Homo sapien

<400> 592
 agtgaaaatg ggttggtttt tgtcttcgac gctcagggtc tgggcgcctc gcatttgagc 60
 tctgttgtag cagacacggg gagctccgag tgccagcctg tggtgcccct gctgtggggg 120
 tcttggggcc ggcgagggcc ctccagctct gttctggggg gacggccac tccggggagg 180
 ggggtgtgctg tgctgagcgc tgtatccctg aatataagttt atttttctta catttgaatt 240
 ctgttgtaga tttatgtaaa aatacattct ttttgaaaat aaaaattttc atgtcttct 299

<210> 593
 <211> 425
 <212> DNA
 <213> Homo sapien

<400> 593
 ttttttttcc tttttcccag gaggcggcga cggcggcggc ggggggagag gaagagaaag 60
 aagcgtctcc agctgaagcc aatgcagccc tccggtcttc cgcgaagaag ttccctgccc 120
 cgatgagccc ccgcggtgag tcccagacta tcccaggcg ggcgtggggc accggggcca 180
 gcgcgacga tcgctgccgt tttgcccctg ggagtaggat gtggtgaaaag gatggggctt 240
 ctcccttacg gggctcaca tggccagaaa agattccgtg aagtgtctgc gctgcctgct 300
 ctacgccctc aatctgctct tttggaatca tcacattcca cttctaaaag gagcttttaa 360
 gatggcctgg ttgaacgtcc ttcctttgtg agtgaggaaa ttaagtgcag attaagtgc 420
 ttgcc 425

<210> 594
 <211> 425
 <212> DNA
 <213> Homo sapien

<400> 594
 gtcactagct ggctaaggct taaagcagag acgtgtgact gggctctctg ggagggcctc 60
 tggttcttcc cgggctcagg cttgctgggg gctggggggc agggctcttg cgacctagag 120
 gtgtggacgg cacagctgca ggaggccttc tcttaaccct ccgagagtgg gactgggaga 180
 tttcctctga agtcccaaag aggccctgtg cccaggggac ctctctctcg gcctcccagg 240
 tgggtggtgc aagctggttc ttggccatgc tccaggctcg ggtgggcaca ggcgtccact 300
 ccagtgtgct gcgtgcttgt gagactgcct gttctgggac cagcccttg gctcttcac 360

caagatttgg tgagggtccc cctctgctc tcacagaagc ccttggccct ggactgtcct 420
 gggggg 425

<210> 595
 <211> 162
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(162)
 <223> n = A,T,C or G

<400> 595
 ctttacatta ttttttttcc aaaaagacta gtatttatac aangggcaat agaaacaaaa 60
 acaaaaaccc ttccgactgc cacctggaag gggetggctg gnetgctccc tctcccacct 120
 ggaacngggg ggggcactgg gcaggaggga atgnggangn gg 162

<210> 596
 <211> 283
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(283)
 <223> n = A,T,C or G

<400> 596
 aaggtgactc aacacntct tcctcaagga cttcttggtg atactctctt gtcttttcca 60
 gttacctctc tcctcctttg tcctctgtgc ttgggctcac aacttnatgg nctgnacttn 120
 ataaaaaac natggcaact ttgncctgan tgnccctn cccaanctga nctggntgga 180
 anaagaaact tggaaactat ntnanccatg gntttgggan nctnccccct tncccatgnc 240
 tnctaataaa accatgcant gcctttggag agaagagacc ccc 283

<210> 597
 <211> 426
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(426)
 <223> n = A,T,C or G

<400> 597
 gaaatacaaa tgtggattct catcactgaa aaatctttga ngntgngttt attcctttca 60
 tcatttttta aatatttttt ttactgccta tgggctgtga tgtatataga agttgtacat 120
 taaacatacc ctcatTTTTT tcttttcttt tttttttttt tttttagccc aaagttttag 180
 tttctttttc atgatgnggn acctccnaag ngatggnaga tttaaataat tttttatttt 240
 tattttatat atttnttcat tagggccttt tctcccnaaa acgaaanaaa aantccnaaa 300
 aacnaaacc aaaaaaanag agggtantgt ccnagtttct gtatgtataa agtcntncnc 360
 gatttcagga gagcnetggn cccaatttgc tcntgaatc aaggngngna aatggttttt 420
 ttggcg 426

<210> 598
 <211> 412
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(412)

<223> n = A,T,C or G

<400> 598

tttttttttt	tttttttttg	ccacctagag	atgataattt	attgttttac	catgactcag	60
aagagaaaca	acataaagag	aatatattcaa	atccccacaa	tttccttctc	aacctcacta	120
ctcttaacat	ttctttatca	gacgccactg	gcttcctaaa	atggaccctg	gactatgtat	180
ggggaccaca	ttcattatgc	tgcctttcct	cttatgatta	aaacttttagc	cctcattcga	240
nggttccaat	ggtactttta	gnngaggagt	ccctagcttt	taaaaaaacc	acttttcctn	300
taaaatccnt	tnnttatnga	aaaaaanont	ttttaaaaat	gttaaggagg	attttaaatg	360
accatattca	attaaaaaaa	aaatnccttn	tggaaacatnt	tngcagaaac	ct	412

<210> 599

<211> 415

<212> DNA

<213> Homo sapien

<400> 599

ccaagatgac	aaagaaaaga	aggaacaatg	gtcgtgccaa	aaagggccgc	ggccacgtgc	60
agcctattcg	ctgcactaac	tgtgcccgat	gcgtgcccaa	ggacaaggcc	attaagaaat	120
tcgtcattcg	aaacatagt	gaggccgcag	cagtcaggga	catttctgaa	gcgagcgtct	180
tcgatgccta	tgtgcttccc	aagctgtatg	tgaagctaca	ttactgtgtg	agttgtgcaa	240
ttcacagcaa	agtagtcagg	aatcgatctc	gtgaagcccg	caaggaccga	acacccccac	300
cccgathtag	acctgcgggt	gctgccccac	gtccccacc	aaagcccatg	taaggagctg	360
agttcttaaa	gactgaagac	aggctattct	ctggagaaaa	ataaaatgga	aattg	415

<210> 600

<211> 208

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(208)

<223> n = A,T,C or G

<400> 600

aaaccgcctt	tttttttttt	ttttttttta	tatgcagttt	gtaanaacaa	aactggatgg	60
catcanaatt	gtctggaagt	tttgtcttgg	gcagtatggg	ctgggccaaa	tgaaatgatt	120
tttataattc	taaacagggt	accaaataaa	atgtcatggc	tttactttgg	caattaaagg	180
ggggaatttt	tttaaaaaaa	aaaaaaaa				208

<210> 601

<211> 165

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(165)

<223> n = A,T,C or G

<400> 601

tgcaggtcga	cactagtgn	tcctaaagaaa	gtaacctaaa	cttgacctgc	ttaatatatt	60
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165

ctagggcaga gaaccaggā tgggacacta aaaaaatgtg tttatttcat tatctgcttg 120
gatttatttg tgtttttcta acacaaaaaa taaatgtttt gatata 165

<210> 602
<211> 416
<212> DNA
<213> Homo sapien

<400> 602
aaaacggttt tgccgagttg ggacgtccac tgctgtcaag tcaaccagag atttgaactg 60
tgcatgtgtg tgatccctga ggaaagtacag cactgggatg acgccatcag gatggataca 120
gacctctaac tcattgaagc aggacacctg aacttggttg acatacttgg gcaagatttc 180
agccacatac tctccaaaag ctgagagctg cttgtgggcc acatcattcc gtggtctgac 240
agtggggcgc gtgtcggccc cgccgtcttc ccgcctcacc ggcagcaaca gaacggaggg 300
tcgcccagtc cccctggtca gcgcggaggc ccccaagatc ccgcgccacc acagcctggc 360
taccgcccgc gcgagtactt ctagagcggc cgcgggccca tcgattttcc acccgg 416

<210> 603
<211> 416
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(416)
<223> n = A,T,C or G

<400> 603
catgagcata aaaaaaaaaac ccaaacctgt nccatacccc tcccactcat gcaaacagct 60
cttaaaatga agaattcttt caaaatttta cgttttttnc attcttggct caattctttt 120
gctttcctca tcactcagaat tcaaaacttg ggcaaacatg ggttttgggc tgantctttg 180
gaatatgctg gaaaaaacccc aatatgggct gcttctgctt gtttggcacg acgcaaaatg 240
gnttcccang atactgcacg gtcttgccaa gaatgttcca ttagaaaaag gcccggttcc 300
tcgccacact ggctggcctc tgctgggtgc ntctagagta tatcggtgc acctcagtg 360
atctgtccat aatttttttg aaaaaaaaaa ctcaatctta acgcgggcat attcnc 416

<210> 604
<211> 414
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(414)
<223> n = A,T,C or G

<400> 604
aaaatttatg agctttatta aagcggttta tcacaaagat ggaaacgtac aaatgagaag 60
catgcaacca tcattctcca cagtcaagtc aaactgctat ttctctctct ctctgtttc 120
atagagctgg aaactgcagg tgttataccc aacctattca tcctcaacac ttagtgcacg 180
ccccggaac tactcagggc accaaacatc caaaacataa actattatta tacaaagaaa 240
gtgcaaagt aaagaaagaa acatggagac cctccccc cataccctca nctaaaggct 300
aacaatggca cttgggtctc tgcttaatct agattgtctt caaaaagtct ctaaaatgng 360
atactgngng ngngggggg ngngaanggt ccaaaagctn cttagtgtt gaaa 414

<210> 605
<211> 417
<212> DNA

<213> Homo sapien

<400> 605

tcctctttca caatcactca acaaacaggt cacacatccc ctaggtccac gaactcatct	60
tctcgtttgg ccaaactcgtc ttcatctccc aaagctttcc agccactggt gggtaagacg	120
ggcttagagg aatgtcgtcg gagcagagcg aaaggaaaca aagacgagag gcgggcagag	180
ttcctcagca ggcagggggc ctcagcctgg ggggcctgct ggctgtggtg tctctcgtcg	240
atcttctctt gtaaaactctg gacttctctc atcatttcca agagtgtgct cagagtggcc	300
acttgccac cacctaggat ttgggttctt ggaatccaac gtaggtagcg ctggggccag	360
actttgattt cgggccctc gatatgcggt aacaacaaac catggtagtc agtggac	417

<210> 606

<211> 413

<212> DNA

<213> Homo sapien

<400> 606

ctgaattctt taatttaaaa aaatcatacc taggaggtgt gctataggaa ttcagatata	60
ataagttgca tataaaaccc gacctcattg ctcatgttgg taaagcaagg atgatgagaa	120
aatgcacctc aggagcaaaa acacgttcta cgggcactcc gggacccaag tcccagagaca	180
tttccacgtg accttctgga aagacacacc gccacctga ctgcacgacg ggactggtcc	240
agcctcccgg ctctcagga aggagatgag tttcctacaa agtgagtggc cacagctcca	300
ggacagggcg tccacatgtc gttgtgggtc tggctggatt ttgaggtgcc gaggaactgg	360
tcggtgtcct gatcgtattg tacgtggtgc tctcgatctc ccaactgcc a	413

<210> 607

<211> 414

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(414)

<223> n = A,T,C or G

<400> 607

attttcatta aaactgtcag aatttgctta ctataattat gatacagtc aaagaatgca	60
gtcacttttt atcatgttaa ctaattgttc ttttttgag atctatggtt gactaattaa	120
acaataattc aagtagagtg tcccagaaaa aaaccacttg ggctccctgt ttggagtctg	180
gctggctctg agcatigcca atggccccta ctcacctgac tttgtatcct ctcccttttag	240
aggctttgca ttctgcaccc agcttcacta acagtgggct gaaaacatcc ttgggttgag	300
tgtttcattt gggagtattt tggccagggc cttttgaaca gtaagtgtcc ccatgaagtg	360
ctagataata tatgngntaa agangtcagc tttttttttt tttttaactc taac	414

<210> 608

<211> 415

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(415)

<223> n = A,T,C or G

<400> 608

gcagtgtct gatcttaagg gnctatatat ttgcacctcc tcattcaaca cagggtgga	60
ggttctacaa caggaaatca ggctacagc atcctgtgta tcttgagtt gggattttta	120
aacatactat aaagtctgtg ttggtatagt acccttcata aggaaaaat gaagtaatgc	180

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ctataagtag caggcctttg tacctcagtg tgaagagaaa tcaagagatg ctaaaagctt    240
tacaatggaa gtggcctcat ggatgaatcc ggggtatgag ccagganaa cgtgctgctt    300
tttggtnacn tatccctttt tntcttaaga aagcanggtg ctnctctatt annaaatatg    360
ttaaaaaatg gnaagcaaac nacaggtgcc tttanaaatt accaatnttt aactt        415

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<210> 609

<211> 420

<212> DNA

<213> Homo sapien

<400> 609

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ggtttttaaaa ttatttcttg aatctctcca tacacaggca aaaataagtg tgttacttaa    60
catactggaa attgcctaac ttaatcattg cctaaagaag agaaaattat ccccaaaacg    120
tgcttaacca ggaggccaat gcatttgccg acctccaaga acatggagat gaacgtgata    180
gacagactgt ccaccatctg aaccttcatt caccaccatt cgataaccct tattcaggcc    240
cagatcagca gcacatttct tgccaacaat cattaagtgt ccaagaagac ttcatcatc    300
atcttctgcc acagaaatct gggatatatg tttcttgggt atcaccagaa aatgtgttgg    360
tgcttgaggg gaaatgtcat ggaaagcaag gcaacgggtc tccttaaaaa tgattttggc    420

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<210> 610

<211> 158

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(158)

<223> n = A,T,C or G

<400> 610

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caactttaaa aaaaaggggg cggtnaaana nccaaanata aaaaggtccc ttggtggat    60
aaaggnccct ttccgggacc ggnccnggac ccacctttgg gcccaaaagg ggattttaccg    120
ggtaaaccac gccttttaag cgttgggggt taaatttc        158

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<210> 611

<211> 159

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(159)

<223> n = A,T,C or G

<400> 611

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tcgacactag tggatccaaa ggaagatggc ggacattcag actgagcgtg cctacaaaaa    60
gcagccgacc atctttcaaa acaagaagag ggtcctgctg ggagaaactg gcaaggagaa    120
gctcccgcgg tntacaaga acatcgnctc gngnttcaa        159

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<210> 612

<211> 419

<212> DNA

<213> Homo sapien

<400> 612

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gcatttttta ttaagacatt tggggcccgga gtttctctc ctctccctt ccatcctgtg    60
ctctctaaat tcagcttttg gaaacctaa ggtgccacc ttcccagca ggtagccaga    120
gcctccgggg tccctcttcc ttcttcttt ctcccagat actgcaagag acaccaagt    180

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<220>
 <221> misc_feature
 <222> (1)...(210)
 <223> n = A,T,C or G

<400> 616
 tgatgccacc cgcgcacccc tcccctcctg agcagggatc caagaatgtg ccaagagtcc 60
 cgccagcctc agccagggtg gctgtatat aggggtccatg tgcaataggg agggacgtct 120
 tctatTTTTt gctgccccct ccccgccac tgtctngggg cagggggaga aggtattttc 180
 nagataaagc acangcacca caaataaaag 210

<210> 617
 <211> 511
 <212> DNA
 <213> Homo sapien

<400> 617
 acgagctttc gtggctcact ccctttcctc tgetgcccgt cgggtcacgt tgtgcccga 60
 ggaggaaaca gtgacagacc tggagactgc agttctctat ccttcacaca gctctttcac 120
 catgcctgga tcacttcctt tgaatgcaga agcttgctgg ccaaaagatg tgggaattgt 180
 tgcccttgag atctatTTTt cttctcaata tgttgatcaa gcagagttgg aaaaatatga 240
 tgggtgtagat gctggaagt ataccattgg cttgggccag gccaatgatg gcttctgcac 300
 agatagagaa gatattaact ctctttgcat gactgtggtt cagaatctta tggagagaaa 360
 taacctttcc tatgattgca ttgggcggct ggaagtggga acagagacaa tcatcgacaa 420
 atcaaagtct gtgaagacta atttgatgca gctgtttgaa gactctggga atacagatat 480
 agaaggaatc gacacaacta atgcatgcta t 511

<210> 618
 <211> 511
 <212> DNA
 <213> Homo sapien

<400> 618
 acgaggccac agaggcggcg gagagatggc cttcagcggc tcccaggctc cctacctgag 60
 tccagctgtc cccttttctg ggactattca aggaggtctc caggacggac ttcagatcac 120
 tgtcaatggg accgttctca gctccagtgg aaccaggttt gctgtgaact ttcagactgg 180
 cttcagtggg aatgacattg ccttccactt caaccctcgg tttgaagatg gagggtagct 240
 ggtgtgcaac acgaggcaga acggaagctg ggggcccag gagaggaaga cacacatgcc 300
 tttccagaag gggatgccct ttgacctctg cttcctgggt cagagctcag atttcaaggt 360
 gatggtgaac gggatcctct tctgtgcagta cttccaccgc gtgcccttcc accgtgtgga 420
 caccatctcc gtcaatggct ctgtgcagct gtccctacatc agcttccagc ctcccggcgt 480
 gtggcctgcc aaccgggctc ccattaccca g 511

<210> 619
 <211> 413
 <212> DNA
 <213> Homo sapien

<400> 619
 gaattcggca cgagctggac aggagaagag cctggctgct gaaggcaggg ctgacacgac 60
 cacgggcagc attgctggag cccagagga tgaaagatcg cagagcacag cccccaggc 120
 accagagtgc ttcgacctg ccggaccggc tgggctcgtg aggcgcagat ctggcctttc 180
 ccagggccca ggaaggaaa ccttggaag tgctctaate gctctagact ctgaaaaacc 240
 caagaaactt cgcttccacc caaagcagct gtacttctct gccaggcagg gtgagctgca 300
 gaaggtgctt ctcatgctgg ttgatggaat tgatcccaac ttcaaatgg agcaccaaag 360
 taagcgttcc ccattacatg ctgtgcgga ggctggccac gtggacatct gcc 413

<210> 620
<211> 415
<212> DNA
<213> Homo sapien

<400> 620

gaattcggca	cgagcggcga	cggtggtggt	gactgagcgg	agcccgggtga	caggatgttg	60
gtgttggtat	taggagatct	gcacatccca	caccgggtgca	acagtttgcc	agctaaattc	120
aaaaaactcc	tggtgccagg	aaaaattcag	cacattctct	gcacaggaaa	cctttgcacc	180
aaagagagtt	atgactatct	caagactctg	gctggtgatg	ttcatattgt	gagaggagac	240
ttcgatgaga	atctgaatta	tccagaacag	aaagttgtga	ctggtggaca	gttcaaaatt	300
ggctgatcc	atggacatca	agttattcca	tggggagata	tggccagctt	agccctgttg	360
cagaggcaat	ttgatgtgga	cattcttattc	tcgggacaca	cacacaaatt	tgaag	415

<210> 621
<211> 421
<212> DNA
<213> Homo sapien

<220>

<221> misc_feature
<222> (1)...(421)
<223> n = A,T,C or G

<400> 621

agaattcngc	acgagtggca	gcctaagccg	tgggaggggt	ccagtcgaga	atgggaagat	60
gaaagacttc	agatggaaca	gaaataaatg	ccttttttga	caaacgcagc	agtgcgtgcc	120
tctagcttgc	aagagcgtta	ctccccctca	tagcttttaa	aggttttcgc	actgcgtgca	180
gttagagtag	ctaaatcttg	tgtgacgctc	cacaaacact	tgtagaat	ttgcagagaa	240
agataaccgt	tgccacccaa	tgccccccac	aggcattcta	ctccccagta	cctcttaggg	300
tgggagaaat	ggtgaagagt	tgttcttaca	acttgctaac	ctagtggaca	gggtagtaga	360
ttagcatcat	ccggatagat	gtgaagagga	cggctgtttg	gataataatt	aaggataaaa	420
t						421

<210> 622
<211> 431
<212> DNA
<213> Homo sapien

<220>

<221> misc_feature
<222> (1)...(431)
<223> n = A,T,C or G

<400> 622

cccgggngg	ncctggncat	aaaactttta	attttactag	tgttacttaa	tgtatattct	60
aaaaagagaa	tgcaagtaact	aatgccctaa	atgtttgatc	tctgtttgtc	attacttttt	120
caaaattatt	ttttctgtga	aagtataata	tataaaactt	cttgcttaaa	ttgaatttct	180
atattagtgg	ttaattgcag	tttattaaag	ggatcattat	cagtaatttc	atagcaactg	240
ttctagtgtt	ttgtgttttt	aaaacagaa	taggaatttg	agatatctga	ttatattttt	300
catatgaatc	acagacctcg	gccgcgacca	cgctaagggc	gaattccagc	acactggcgg	360
ccgctactag	tggatccgag	ctcggtacca	agcttgggcg	taatcatggt	catagcctgt	420
ttcctgtgtg	a					431

<210> 623
<211> 421
<212> DNA
<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(421)
 <223> n = A,T,C or G

<400> 623

agaattcggc	acgaggaaac	atggactgcc	ccttaaattt	tgactgtcct	aaaaacctat	60
ttctgattta	taatatgctg	netgataaag	tgacactaga	ngnaccnact	nnatggttta	120
aatcttccca	ttcccagaat	ccagaatttt	ggaagccatt	ttaaccaggg	gtattttttt	180
caccattacc	ttttggaact	ttccaaatta	atggcctttt	aaaaaggttg	gaaggggaaa	240
accaaaggc	caaaatttta	aaaaggttgg	gggggggaac	cttaaaaaaa	aaaatgggtt	300
ttggggccnc	ctttttttaa	aaggccaaaa	nttttttggg	ttccaattaa	aaaaatttcc	360
tttttccaac	ccaaaattaa	gaaaaggnaa	aattaaaaaa	attncaaaaa	ttggnntttt	420
t						421

<210> 624
 <211> 421
 <212> DNA
 <213> Homo sapien

<400> 624

aagaattcgg	cacgagcgga	tgtgctcact	gacattctac	tccaagtcgg	agatgcagat	60
ccactccaag	tcacacaccg	agaccaagcc	ccacaagtgc	ccacattgct	ccaagacctt	120
cgccaacagc	tcctacctgg	cccagcacat	ccgtatacac	tcaggggcta	agccctacag	180
ttgtaacttc	tgtgagaaat	ccttcgcgca	gctctcccac	cttcagcagc	acaccggaat	240
ccacactggt	gatagaccat	acaaatgtgc	acaccagggc	tgtgagaaag	ccttcacaca	300
actctccaat	ctgcagtccc	acagacggca	acacaacaaa	gataaacctt	tcaagtgcc	360
caactgtcat	cgggcgtaca	cggatgcagc	ctcactagag	gtgcacctgt	ctacgcacac	420
a						421

<210> 625
 <211> 421
 <212> DNA
 <213> Homo sapien

<400> 625

agaattcggc	acgagctact	ccttgcgcgc	tggcactccg	cagcctttta	ggttcgcgcg	60
ggggccaggc	aagagttagc	catgaagagc	ctcaagtccc	gcctgaggag	gcaggacgtg	120
cccgccccc	cgctcgtctg	cgcgcgcgcc	gccagcgcgc	atgcagcaga	ttggaataaa	180
tatgatgacc	gattgatgaa	agcagcagaa	aggggggatg	tagaaaaagt	gacgtcaatc	240
cttgctaaaa	aggggggtcaa	tccaggcaaa	ctagatgttg	aaggcagatc	tgtcttccat	300
gttgtagcct	caaaggggaa	tcttgagtgt	ttgaatgcca	tccttataca	tggagttgat	360
attacaacca	gtgacactgc	agggagaaat	gctcttcacc	tggctgctaa	gtatggacat	420
g						421

<210> 626
 <211> 476
 <212> DNA
 <213> Homo sapien

<400> 626

agaattgatc	tatagattta	atgcaatgcc	tactaaaaatc	ccagtacgat	tttttacagg	60
catagacaat	agacatagcc	aaaacttatt	ctaaaataca	tatgaagatg	cacaggccct	120
agttatacaa	tcttgacaaa	gaagaataaa	gtgggaagaa	tctatttgat	tttaaggctt	180
accatgtaac	tacagtcatc	aagagagtgt	ggtatcggca	gacggtcaga	catacagatc	240
aatggaatgt	aacagaggac	ccagaaatag	gcccacacag	atatgctcaa	tggatatttg	300
acaagcgtgc	aaaacaattc	aatggaagaa	taagctttca	aaaaaatggc	gttggagcaa	360

ccggacatcc ataggaaaa atgaacccat acctaaacca taaaccttat ataaaaataa 420
 acacaaaatg aatcataggc ttaaattgtaa gctataaaac ttttagagaa aaacac 476

<210> 627
 <211> 503
 <212> DNA
 <213> Homo sapien

<400> 627
 tagccctcgg tgaagcccca gaccacagct atgagtcctt tctgttgacg tctgcccaga 60
 aacatgttct gcatgtccag ctcaaccggc ccaacaagag gaatgccatg aacaaggtct 120
 tctggagaga gatggttagag tgcttcaaca agatttcgag agacgctgac tctcgggcgg 180
 tggatgatctc tggatgcagga aaaatgttca ctgcaggtat tgacctgatg gacatggctt 240
 cggacatcct gcagcccaaa ggagatgatg tggcccggtat cagctggtag ctccgtgaca 300
 tcatcactcg ataccaggag accttcaacg tcatcgagag gtgcccgaag cccgtgattg 360
 ctgccgtcca tgggggctgc attggcggag gtgtggacct tgtcaccgcc tgtgacatcc 420
 ggtactgtgc ccaggatgct ttcttccagg tgaaggaggt ggacgtgggt ttggctgccc 480
 atgttagaac actgcagcgc ctg 503

<210> 628
 <211> 248
 <212> DNA
 <213> Homo sapien

<400> 628
 taagtccagg gggaataact gtaggcattc ctggaatcac tgttttctgt tccatttgtt 60
 cttgggtcca gcggtccttc ttccgcttct tacttgggaa gtccaacggc gtggcggtcg 120
 ctccgggtgc catggcgccc ccggggacag gcaccggcac ctgcttttcc tctgcggcgg 180
 cttctccttc gcaagcctcc cggggggagg ggacccgaat gcgctgccgg agcgcgcgga 240
 gcccgctcc 248

<210> 629
 <211> 99
 <212> DNA
 <213> Homo sapien

<400> 629
 actgccagtc caaaggcatc gtggtgaccg cctacagccc cctcggctct cctgacaggc 60
 cctgggcca gcccaggagc cttctctcc tggaggatc 99

<210> 630
 <211> 640
 <212> DNA
 <213> Homo sapien

<400> 630
 gaagacatga tgctacactc agctttgggt ctctgcctct tactcgtcac agtttcttcc 60
 aaccttgcca ttgcaataaa aaaggaaaag aggcctcttc agacactctc aagaggatgg 120
 ggagatgaca tcaattgggt acaaaacttat gaagaaggct tcttttatgc tcaaaaaagt 180
 aagaagccat taatggttat tcatcacctg gaggatgttc aatactctca agcactaaag 240
 aaagtatttg cccaaaatga agaaatacaa gaaatggctc agaataagtt catcatgcta 300
 aaccttatgc atgaaaccac tgataagaat ttatcacctg atgggcaata tgtgcctaga 360
 atcatgtttg tagacccttc tttaacagtt agagctgaca tagctggaag atactctaac 420
 agattgtaca catatgagcc tcgggattta cccctattga tagaaaacat gaagaaagca 480
 ttaagactta ttcagtcaga gctataagag atgatggaaa aaagccttca cttcaaagaa 540
 gtcaaatttc atgaagaaaa cctctggcac attgacaaat actaaatgtg caagtatata 600
 gattttgtaa tattactatt tagttttttt aatgtgtttg 640

<210> 631
 <211> 168
 <212> PRT
 <213> Homo sapien

<400> 631
 Glu Asp Met Met Leu His Ser Ala Leu Gly Leu Cys Leu Leu Leu Val
 1 5 10 15
 Thr Val Ser Ser Asn Leu Ala Ile Ala Ile Lys Lys Glu Lys Arg Pro
 20 25 30
 Pro Gln Thr Leu Ser Arg Gly Trp Gly Asp Asp Ile Thr Trp Val Gln
 35 40 45
 Thr Tyr Glu Glu Gly Leu Phe Tyr Ala Gln Lys Ser Lys Lys Pro Leu
 50 55 60
 Met Val Ile His His Leu Glu Asp Cys Gln Tyr Ser Gln Ala Leu Lys
 65 70 75 80
 Lys Val Phe Ala Gln Asn Glu Glu Ile Gln Glu Met Ala Gln Asn Lys
 85 90 95
 Phe Ile Met Leu Asn Leu Met His Glu Thr Thr Asp Lys Asn Leu Ser
 100 105 110
 Pro Asp Gly Gln Tyr Val Pro Arg Ile Met Phe Val Asp Pro Ser Leu
 115 120 125
 Thr Val Arg Ala Asp Ile Ala Gly Arg Tyr Ser Asn Arg Leu Tyr Thr
 130 135 140
 Tyr Glu Pro Arg Asp Leu Pro Leu Leu Ile Glu Asn Met Lys Lys Ala
 145 150 155 160
 Leu Arg Leu Ile Gln Ser Glu Leu
 165

<210> 632
 <211> 402
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(402)
 <223> n = A,T,C or G

<400> 632
 gcccgacgt aggtagtttg ttgggcccggg ttctgaggcc ttgcttctct ttacttttcc 60
 actctaggcc acgatgccgc agtaccagac ctgggaggag ttcagccgcg ctgccgagaa 120
 gctttacctc gctgacccta tgaaggcacg tgtggttctc aaatataggc attctgatgg 180
 gaacttgtgt gttaaagtaa cagatgattt agtttgtttg gtgtataaaa cagaccaagc 240
 tcaagatgta aagaaaattg agaaattcca cagtcaacta atgcnactta tggtagccaa 300
 ggaagcccgc aatgttacca tggaaactga gtgaatggtt tgaaatgaaa ctttgtcgtg 360
 tacttaggaa gtaaatatct tttgaattan aaaaagtgtt gg 402

<210> 633
 <211> 402
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(402)
 <223> n = A,T,C or G

<400> 633

gcggagtcgg	gtgggttggc	ggctataaag	ctggtagcga	aggggaggcg	ccgcggactg	60
tccttttcgtg	gctcaactcc	tttcctctgc	tgccgctcgg	tcacgcttgc	tctttcacca	120
tgccctggatc	acttcctttg	aatgcagaag	cttgctggcc	aaaagatgtg	ggaattgttg	180
cccttgagat	ctattttcct	tctcaatatg	ttgatcaagc	agagttggaa	aaatatgatg	240
gtgtagatgc	tggaagatg	accattggct	tgggccangc	caagatgggc	ttctgcacag	300
atagagaaga	tattaactct	ctttgcatga	ctgtggttca	gaatcttatg	gagagaaata	360
acctttccta	tgattgcatt	gggcggttgg	aagttggaac	ag		402

<210> 634

<211> 386

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(386)

<223> n = A,T,C or G

<400> 634

tgcaggtcga	cactagtggg	tccaaanaat	tcggcacgag	gctggcaaga	agagacgagg	60
cccggctgtg	gagcaactga	accgggtgac	tgccccagc	tggactccct	ggtggcccag	120
cagctgcaga	gcaagaatga	gtgtggaatc	cttgccgacc	ccaaggggcc	cttccgggag	180
tgccatagca	agctggaccc	ccagggtgcc	gtgcgcgact	gtgtctatga	ccgctgcctg	240
ctgccaggcc	agctggggcc	actgtgtgac	gcactggcca	cctatgctgc	tgcatgccag	300
gctgctggag	ccacagtgcg	ccctggagg	agtgaagaac	tttgcccact	tganctgccg	360
ccncacannc	ctatnaggcg	tgttct				386

<210> 635

<211> 404

<212> DNA

<213> Homo sapien

<400> 635

gccaccactt	cgtagtggtt	tgaacaaaac	caagttaaag	aaagaagata	tttatgcagt	60
ggagatagtt	ggtggtgcta	cacgaatccc	tgccgtaaaa	gagaagatca	gcaaattttt	120
cggtaaaaga	cttagtacia	cattaaatgc	tgatgaagct	gtcactcgag	gctgtgcatt	180
gcagtgtgcc	atcttatcgc	ctgctttcaa	agtcagagaa	ttttctatca	ctgatgtagt	240
accatatcca	atatctctga	gatggaattc	tccagctgaa	gaagggtcaa	gtgactgtga	300
agtcttttcc	aaaaatcatg	ctgctccttt	ctctaaagtt	cttacatttt	atagaaagga	360
acctttcact	cttgaggcct	actacagctc	tcctcaggat	ttgc		404

<210> 636

<211> 403

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(403)

<223> n = A,T,C or G

<400> 636

gctcactggg	ccccagtgcc	ctgctggagc	aagcctatgc	tgtgcagatg	gacttcaacc	60
tgctagtggg	tgctgtcagc	cagaacgctg	ccttcctgga	gcaaactctt	tccagcacca	120
tcaaacagga	tgactttacc	gctcgtctct	ttgacatcca	caagcaagtc	ctaaaagagg	180
gcattgcccc	gactgtgttc	ctgggcctga	atcgctcaga	ctacatgttc	cagcgcagcg	240

```

cagatggctc cccagccctg aaacagatcg aaatcaacac catctctgcc agctttgggg 300
gcttggcctc cccgacccca nctgtgcacc gacatgttct cagtgtcctg agtaagacca 360
aagaagctgg caagatcctc tctaataatc ccagcaaggg act 403

```

```

<210> 637
<211> 441
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(441)
<223> n = A,T,C or G

```

```

<400> 637
aggtcgacac tagtggatcc aaanaattcg gcacgaggag agagacccta aaagcaaaaa 60
tagaagggat gacccaaaagt ctgagagggtc tggaattaga tgttgttact ataagggtcag 120
aaaaagaaaa tctgacaaat gaattacaaa aagagcaaga gcgaatatct gaattagaaa 180
taataaattc atcatttgaa aatattttgc aagaaaaaga gcaagagaaa gtacagatga 240
aagaaaaatc aagcactgcc atggagatgc ttcaaacaca attaaaagag ctcaatgaga 300
gagtggcagc cctgcataat gaccaagaag cctgtaaggc caaagagcag aatcttagta 360
gtcaagtaga gtgtcttgaa cttgagaagg ctgagttgct acaaggcctt gatgaggcca 420
aaaataatta tattgtttgc a 441

```

```

<210> 638
<211> 404
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(404)
<223> n = A,T,C or G

```

```

<400> 638
gcgctgccgc cgattccgga tctcattgcc acgcgccccg gacgaccgcc cgacgtgcat 60
tcccgattcc ttttggttcc aagtccaata tggcaactct aaaggatcag ctgatttata 120
atcttctaaa ggaagaacag acccccaga ataagattac agttgttggg gttggtgctg 180
ttggcatggc ctgtgccatc agtatcttaa tgaaggactt ggcagatgaa cttgctcttg 240
ttgatgtcat cgaagacaaa ttgaaggagg agatgatgga tctccaacat ggcagccttt 300
tcttagaaca ccaaagattg tctntggcaa agactataat gtaactgcaa ctncagctgg 360
cattatcacg ntggggacgt cagaagaagg agaaagccgc ttat 404

```

```

<210> 639
<211> 404
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(404)
<223> n = A,T,C or G

```

```

<400> 639
gcattgtacc agcatttcgg ctctcgcgc gctcgcgtcc cctcgtgcgg gctccagccg 60
cagccttagc ttcggctccc ggcttgggtg gcgcggccgt gccctcgttt tggcctccga 120
acgcggctcg aatggcaagc caaaattcct tccggataga atatgatacc tttggtgaac 180
taaagggtgc aaatgataag tattatggcg ccagaccgt gagatctacg atgaacttta 240

```

```

agattggagg tgtgacagaa cgcatgccaa cccagttat taaagctttt ggcatcttga    300
aacgagcggc cgctgaagta aaccaggatt atggtcttga tccaaaaatt gctaatgcaa    360
taatgaangc agcanatgaa gnantgaag gtaaataaaa tgat                        404

```

```

<210> 640
<211> 401
<212> DNA
<213> Homo sapien

```

```

<400> 640
ggccaagtca gcttcttctg agagagtctc tagaagacat gatgctacac tcagcttttg    60
gtctctgcct cttactcgtc acagtttctt ccaaccttgc cattgcaata aaaaaggaaa    120
agaggcctcc tcagacactc tcaagaggat ggggagatga catcacttgg gtacaaactt    180
atgaagaagg tctcttttat gtcacaaaaa gtaagaagcc attaatggtt attcatcacc    240
tggaggattg tcaatactct caagcactaa agaaagtatt tgcccaaaat gaagaaatac    300
aagaaatggc tcagaataag ttcatcatgc taaaccttat gcatgaaacc actgataaga    360
atttatcacc tgatgggcaa tatgtgccta gaatcatgtt t                        401

```

```

<210> 641
<211> 404
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(404)
<223> n = A,T,C or G

```

```

<400> 641
ggctcatcgc agacaccagc cgacctaccg gctttcggac catggccaac ctcgagcgta    60
ccttcattgc catcaagcca gatggcggtgc agcgcggcct ggtgggcgag atcatcaaac    120
gattcgagca gaaggggttc cgctggtggc catgaagtgc cttcgggctn ttgaagaaca    180
cctgaacagc attacatcga cctgaacga accgtccttt ctttcnnggg gctggtgaaa    240
tacatgaact tnggggccat ngtgggcatg ggcttgggaa ggggntcaat ggtggtggaa    300
aaccggcccg aatgattctt ggggggaana acaaatccaa nttgatttaa aaaccaggca    360
nccattnccg ggggggattt tnttgnnttt naaanttggg nagg                        404

```

```

<210> 642
<211> 366
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(366)
<223> n = A,T,C or G

```

```

<400> 642
tgcagtcga cactagtgga tccaantaat tcggcacgag gagcaaaaggc acatcttaaa    60
tggcagggga actacccttg atacaacat cagatctcat gagactcact gtcatgagaa    120
cagcagcatg ggggtaacgg ccccatgatt caattacctc ccactgagtc cctccacga    180
catatgggga ttatgggagc tacaattcaa gatgagattt aggtggggac acagccaaac    240
catttcaata gcataacacc aaaaaagggt atagagcagt aaaaggggtg atggaccatg    300
catcagtaat aataataata attataagtg atctttaaac attcatcagg tgccaagcct    360
cgtgcc

```

```

<210> 643
<211> 403

```

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(403)
<223> n = A,T,C or G

<400> 643
gtgacctgat gagacagtta attatggcca atccacaaat gcagcagttg atacagagaa 60
atccagaaat tagtcatatg ttgaataatc cagatataat gagacaaacg ttggaacttg 120
ccaggaatcc acaatgatgc agganaagat gaagaaccaa gacccaactt tnancaacct 180
aaaaannntt ccnagggggnn ttannngttt nanggncttt ntccccaant tttnagganc 240
cattgttnat ngntgnncaa aannagttng gnggaaatcc ttttgtttcc ttggggancca 300
atacatcctt tggngaaggt agtcaacctt cccgtncana aattagaaat cccctnccca 360
atccttgagg tccacaaact tcccaaagtt antnagtttc cac 403

<210> 644
<211> 403
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(403)
<223> n = A,T,C or G

<400> 644
ggggatgaca gccctaacaa gaactgtttt tgaatcgttg tgcagctcca ggcaatagag 60
tatgtgaagc gatttcagta gaatcactta ctcatcctaa aagaaaacat tatcccnant 120
accntccttn nnaatncctt nttntaann aaacntanng ntnnntgnnt gttnannggn 180
atnanccttta aanntgcant ntnntttant cctccaaatn ttttctgggt tcntntgaga 240
ancaccanaa nctttctttc ccttntcttc agtanttgca anagganacc tccnttnagg 300
actggcntag ngaacgtaat ccatgcttta actgccatta aacagcccca tggttggatt 360
tttttttttt ttngagtngg ctttccaaaa ctttgtcaaa aac 403

<210> 645
<211> 405
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(405)
<223> n = A,T,C or G

<400> 645
ggcctttcca ggccgcactc cagagccaaa agagctccat ggcggcggcg gccaaagcca 60
acaacctttc cctgggtggtg caccgaccgg gggacttgcg cctggagAAC tatcctatcc 120
ctgaaccagg cccaaatgag gtcttgctga ggatgcattc tgttggaatc ttgtggctta 180
aatgtcacta ctgggagtat gggcnaattg ggaattttat tgngaaaaac ccatgggggtt 240
ggacatgaag ttcggacagt cnaaaaagtg ggatcatcgg naaagaccta aaaccaggtg 300
atcggttgca tcacctgggc tcccgaaaaa tgataattnt gaagatggcc atacatntgt 360
accttcatnt tttntggcac ccccccnaa cggaaactttg cgggtt 405

<210> 646
<211> 412
<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(412)

<223> n = A,T,C or G

<400> 646

ggaacccagt	gcctgcagcc	atggctcccg	gccagctcgc	cttatttagt	gtctctgaca	60
aaaccggcct	tgtggaattt	gcaagaaacc	tgaccgctct	tggtttgaat	ctggctcgctt	120
ccggagggac	tgcaaaagct	ctcaggggatg	ctggctcggc	agtcagagat	gtctctgagt	180
tgacgggatt	tcctgaaatg	ttggggggac	gtgtgaaaac	tttgcacctc	gcagtccatg	240
ctggaatcct	agctcgtaat	attccagaag	ataatgctga	catggccaga	cttgatttca	300
atcttataag	agttgttgcc	tgcaatctct	atccctttgt	aaagacaagt	ggcttctcca	360
ggtgtaactg	ttgaggangc	tgtagggagca	aattgacatt	ggtgggagta	ac	412

<210> 647

<211> 412

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(412)

<223> n = A,T,C or G

<400> 647

ggtcgcccg	cgccccagcc	cgcccgccg	gctccccgcc	tccccgctag	cgcannccggc	60
ngntctgntc	ggctgattnc	cagctatgan	acaaggagaa	tgaaaatatg	aagaaaaagc	120
tgaacaaaaa	agttanntag	ctaaaacagg	acttgcagnn	ttnaaaacag	gtccttgatg	180
gcaaagaaga	ggttgagaaa	caacntagag	aaaatattna	aantctaaat	tccatggtag	240
aaogccaaga	gaaagatctt	ggcgcgtctt	aggtagacat	ggatgaactt	gaagaaaaga	300
accgaagtat	tcangctgcc	tgatagtgcc	atacaaagaa	cttactgac	tttacaaagc	360
caatgctgca	aangatagtg	aggnacanga	agctgctctn	accgtgaaat	ga	412

<210> 648

<211> 413

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(413)

<223> n = A,T,C or G

<400> 648

ggtcgcccg	cgccccagcc	cgcccgccg	gctccccgcc	tccccgctag	cgcagcccg	60
cggctctgcc	cggctgccgc	cggcatgaa	catcatggat	ttcaacgtga	agaaacttgg	120
cgggcccagc	gggcaccttt	tcttaagccg	gcccgtnaa	tttanaaaaa	aaaaacttgg	180
ncaagcaaaa	aaaaanaaaa	ttggncttta	ncttgaaaa	cttcttaaca	aaacttaatg	240
gtccaaaata	ttgaccgaaa	aaaaaatgna	ncaaaccnna	ntgnttttgc	acccaatnctn	300
aatnccnnga	nnaaaaaaat	tgnttattaa	aaacntgaat	aaaaancccc	aannctatna	360
acaacccoga	acttttttga	cnatntntna	ntgatnnnng	aacntaattt	ggc	413

<210> 649

<211> 409

<212> DNA

<213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(409)
 <223> n = A,T,C or G

<400> 649

actagtggat	ccaaagantt	cggcacgagg	gcanggtgtn	cgggcgggaa	ggggcacggg	60
cacccccgcg	gtcctcgga	ggctagagat	catggaagg	aagtgggtgc	tgtgtatgtt	120
actggtgctt	ggaactgcta	ttgttgaggc	tcatgatgga	catgatgatg	atgtgattga	180
tattgaggat	gaccttgacg	atgtcattga	agaggtagaa	gactcaaac	cagataccac	240
tgtctctcct	tcctctccca	aggttactta	caaagctcca	nttccaacag	gggaagtata	300
ttttgctgat	tcttttgaca	gaggaactct	gtcaggggtg	attttatnca	nagccaanaa	360
agacnaccn	atgatgaaaa	ttgccnaata	tnatggaaaa	gtgggaggt		409

<210> 650
 <211> 413
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(413)
 <223> n = A,T,C or G

<400> 650

ggcctgagga	ccggcaacat	ggtgcggctc	gggaataagg	cagctgttgt	gctgtgtatg	60
gacgtgggct	ttaccatgag	taactccatt	cctggatatag	aatccccatt	tgaacaagca	120
aagaaggtga	taaccatggt	tgtacagcga	caggtgtttg	ctgagaacaa	ggatgagatt	180
gctttagtcc	tgtttggtag	agatggcact	gacaatcccc	tttctggtgg	ggatcagtat	240
cagaacatca	cagtgacacag	acatctgatg	ctaccagatt	ttgatttgct	ggaggacatt	300
gaaagcaaaa	tccaaccagg	ttctcaacag	gctgacttcc	tgatgcact	aatcgtgagc	360
atggatgtga	ttcacatgaa	acaataggaa	agaagtttga	gaanaagcat	att	413

<210> 651
 <211> 441
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(441)
 <223> n = A,T,C or G

<400> 651

ctagtggatc	caaaganttc	ggcacgaggc	aaccagtgac	actgcaggga	gaaatgctct	60
tcacctggct	gctaagtatg	gacatgcatt	gtgcctacaa	aaacttctac	agtacaattg	120
tccactgag	catgcagacc	tgacgggaag	aactgcactt	cacgatgccg	caatggcaga	180
ttgtccttct	agcatacagc	tgctttgtga	ccatggggcc	tctgtgaatg	ccaaagatgt	240
agacggggcg	acaccacttg	ttctggctac	tcagatgagt	aggccaacaa	tgtgtcaact	300
gctgatagat	agaggagcgg	atgttaattc	cagagacaaa	caaacacaga	ctgcctcat	360
gctaggttgc	gaatatggtt	gcagagatgc	agtagaagtc	ttaattaaaa	atgggtgctg	420
atataagctt	gctggatgcg	c				441

<210> 652
 <211> 412
 <212> DNA
 <213> Homo sapien

<400> 652

gcttctctct	cctgtgcaaa	atggcaactc	ttaaggaaaa	actcattgca	ccagttgcgg	60
aagaagaggc	aacagttcca	aacaataaga	tcactgtagt	gggtgttgga	caagttggta	120
tggcgtgtgc	tatcagcatt	ctgggaaagt	ctctggctga	tgaacttgct	cttgtggatg	180
ttttggaaga	taagcttaaa	ggagaaatga	tggatctgca	gcatgggagc	ttatttcttc	240
agacacctaa	aattgtggca	gataaagatt	attctgtgac	cgccaattct	aagattgtag	300
tggttaactgc	aggagtcccg	tcagcaagaa	ggggagagtc	ggctcaatct	ggtgcagaga	360
aatggtaatg	tcttcaaatt	cattattcct	cagatccgca	agtacagtcc	tg	412

<210> 653

<211> 414

<212> DNA

<213> Homo sapien

<400> 653

gccagttcaa	gtccaccctg	ccggacgccg	atagggagcg	cgaggccatc	ctggccatcc	60
acaaggaggc	ccagaggatc	gctgagagca	accacatcaa	gctgtcgggc	agcaaccctt	120
acaccaccgt	caccccgcaa	atcatcaact	ccaagtggga	gaaggtgcag	cagctgggtc	180
caaaacggga	ccatgccctc	ctggaggagc	agagcaagca	gcagtccaac	gagcacctgc	240
gccgccagtt	cgccagccag	gccaatgttg	tggggccctg	gatccagacc	aagatggagg	300
agatcgggcg	catctccatt	gagatgaacg	ggaccctgga	ggaccagctg	agccacctga	360
agcagtatga	acgcagcatc	gtggactaca	aagcccaacc	tggaccttgt	tgga	414

<210> 654

<211> 404

<212> DNA

<213> Homo sapien

<400> 654

gcatggcgga	gctgacgggtg	gaggttcgcg	gctccaacgg	ggctttctac	aagggattta	60
tcaaagatgt	ccacgaagac	tccctcacag	ttgtttttga	aaataattgg	caaccagaac	120
gccaggttcc	gtttaatgaa	gtgogattac	caccaccacc	tgatataaaa	aaagaaatta	180
gtgaaggaga	tgaagtagag	gtatattcaa	gagcaaatga	ccaagagcca	tgtggatggt	240
ggctggctaa	agttcgggatg	atgaaaggcg	agttttatgt	cattgaatat	gctgcttggt	300
atgccactta	caatgaaata	gtcacatttg	aacgacttcg	gcctgtcaat	caaaataaaa	360
ctgtcaaaaa	aaataccttc	tttaagtga	cagtggaatg	tcct		404

<210> 655

<211> 402

<212> DNA

<213> Homo sapien

<400> 655

gggcaagatc	accattagca	aatggaaatt	acatttgaaa	gccattagac	ttataggtga	60
tgcaagcatc	taagagagag	gttaatcaca	ctatagaggc	ataagtggta	tcagttttca	120
tttttcta	tgtttaaa	actgtgtttata	ccagtgtttg	caagtaattg	ggtgttagct	180
tgagatgggt	aaaggtgggt	tggggagggga	cttcgttgta	atggttttgc	tgtaaaaaat	240
gtttccaact	ccgtgaaat	gttgctgaaa	agcatgggtc	tggtaacagt	tcaacaatcc	300
gtggctgctc	attcttgcc	actttactct	cccactgaag	caggttagcg	tttgaagggtg	360
gtatggaaaa	cctgcatgcc	tgttcaattc	ttttgtttct	tc		402

<210> 656

<211> 416

<212> DNA

<213> Homo sapien

<400> 656

```

gaatcggcac gaggtcagcc gcgagggtgc cggcatcaag gccgcctacg aggccgagct      60
cggggatgcc cgcaagaccc ttgactcagt agccaaggag cgcgcccgcc tgcagctgga      120
gctgagcaaa gtgcgtgagg agtttaagga gctgaaagcg cgcaatacca agaaggaggg      180
tgacctgata gctgctcagg ctcggtgtaa ggacctggag gctctgctga actccaagga      240
ggccgcactg agcactgctc tcagtgaaga gcgcacgctg gagggcgagc tgcattgatct      300
gcggggccag gtggccaagc ttgaggcagc cctaggtgag gccaagaagc aacttcagga      360
tgagatgctg cggcggggtg atgctgagaa caggctgcag accatgaagg aggaac      416

```

```

<210> 657
<211> 402
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc feature
<222> (1)...(402)
<223> n = A,T,C or G

```

```

<400> 657
gctccaagca gacacaatgg taagaatggt gcctgtcctg ctgtctctgc tgctgtttct      60
gggtctgtct gtccccagg agaaccaaga tggctcgttac tctctgacct atatctacac      120
tggtgtgtcc aagcatgttg aagacgtccn cgnntttcag gcccttggct cactcaatga      180
cctccagttc tttagataca acagttaaaga caggaagtct cagcccatgg gactctggag      240
acaggtggaa ggaatggagg attggaagca ggacagccaa cttcagaagg ccaggggagga      300
catctttatg gagaccctga aagacattgt ggagtattac aacgacagta acgggtctca      360
cgtattgcag ggaagggttg gtttgtgaga tcgagaataa ca      402

```

```

<210> 658
<211> 404
<212> DNA
<213> Homo sapien

```

```

<400> 658
gcaagacgcc acttccccta tcatagaaga gcttatcacc tttcatgata acgcoctcat      60
aatcattttc cttatctgct tcctagtcct gtatgccctt ttcctaacac tcacaacaaa      120
actaactaat actaacatct cagacgtctc ggaaatagaa accgttgaac tatcctgccc      180
gccatcatcc tagtcctcat cgcctctcca tccctacgca tcctttacat aacagacgag      240
gtcaacgata cctcccttac catcaaatac attggccacc aatgggtactg aacctacgag      300
tacaccgact acggcggact aatcttcaac tcctacatac ttccccatt attcctagaa      360
ccaaggcgga cctgcgactc cttgacgttg acaatcgagt agta      404

```

```

<210> 659
<211> 411
<212> DNA
<213> Homo sapien

```

```

<400> 659
ggcacgaggg tcgccgttac tccgaggaga taccagtcgg tagaggagaa gtcgaggtta      60
gagggaaact ggaggcactt tgotgtctgc aatcgaagtt gaggggtgaa aaatgcagag      120
taataaaact tttaacttgg agaagcaaaa ccatctccaa gaaaagcatc atcaacatca      180
ccaccagcag cagcaccacc agcagcaaca gcagcagccg ccaccaccgc caatacctgc      240
aaatgggcaa caggccagca gccaaaatga aggcttgact attgacctga agaattttag      300
aaaaccagga gagaagacct tcacccaacg aagccgtctt tttgtgggaa atcttctctc      360
cgacatcact gaggaagaaa tgaggaaact atttgagaaa tatggaaagg c      411

```

```

<210> 660
<211> 412
<212> DNA

```

<213> Homo sapien

<400> 660

```
ggcacgaggg ggatttgggt cgcagttctt gtttgtggat cgctgtgac gtcacttaac    60
aatgcagatc ttctggaaga ctctgactgg taagaccatc accctcgagg ttgagcccag    120
tgacaccatc gagaatgtca aggcaaagat ccaagataag gaaggcatcc ctctgacca    180
gcagaggctg atctttgctg gaaaacagct ggaagatggg cgcaccctgt ctgactaaa    240
catccagaaa gagtccaccc tgcacctggg gctccgtctc agagggtggg tgcaaatctt    300
cgtgaagaca ctactggca agaccatcac ccttgaggtc gagcccagtg acaccatcga    360
gaacgtcaaa gcaaagatcc aggacaagga aggcattcct cctgaccagc ag          412
```

<210> 661

<211> 411

<212> DNA

<213> Homo sapien

<400> 661

```
ggcacgaggg gagatcgatg atcttgccag taatgtagag acagtgtcta aggccaaggg    60
aaacctcgag aagatgtgcc gcacctgga ggaccaggtg agtgagctga agtcaaagga    120
ggaggaacag cagcgactga tcaacgacct gacaaccacg agaggacgac tgcagaccga    180
atccggtgaa ttttccaggc agcttgatga gaaggaagcg ctggtatctc agttatcaag    240
gggcaaacag gcattcactc aacagattga ggagctaaag aggcaacttg aagaggaagt    300
aaaggccaag aacgcgctgg ccacgcccct gcagtcctcc cgccatgact gtgacctgct    360
gcgggaacag tacgaggagg agcaggagtc taaggctgaa ctgcagaggg c          411
```

<210> 662

<211> 414

<212> DNA

<213> Homo sapien

<400> 662

```
ggcacgaggg tcacaggacc agccactagc gcagcctcga gcgatggcct atgtccccgc    60
accgggttac cagcccacct acaaccgac gctgccttac taccagccca tcccgggcgg    120
gctcaacgtg ggaatgtctg ttacatcca aggagtggcc agcgagcaca tgaagcgggt    180
cttcgtgaac ttttggttg ggcaggatcc gggctcagac gtcgccttcc acttcaatcc    240
gcggtttgac ggctgggaca aggtggtctt caacacgttg cagggcgagg agtggggcag    300
cgaggagagg aagaggagca tgcccttcaa aaagggtgcc gcctttgagc tggctctcat    360
agtcctggct gagcactaca aggtggtggt aaatggaat cccttctatg agta          414
```

<210> 663

<211> 414

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(414)

<223> n = A,T,C or G

<400> 663

```
gcggcgctcc ttctcctcg gctcgcgtct cactcagtg accttctagt cccgccatgg    60
ccgctctcac ccgggacccc cagttccaga agctgcagca atggtaccgc gagcaccgct    120
ccgagctgaa cctgcgcgcn ctcttcgatg ccaacaagga ccgcttnaac cacttcagct    180
tgacctcaa caccaaccat gggcatatcc tggnggatta ctccaagaac ctggtgacgg    240
aggacgtgat gcggtgctg gtggacttgg ccaagtccag gggcgtggag gccgaccggg    300
agcggatgtt caatggtgan aagatcaact acaccgang gtcgagccgt gctgcacgtg    360
gctctgcgga accggttcaa acacacccat nctgggagac ggcaangatg tgat          414
```

<210> 664
 <211> 411
 <212> DNA
 <213> Homo sapien

<400> 664
 ggacgagggc ttatgatgcg tgccatgctc cacaaccatc aacaggaacc gcatgggccc 60
 agacaagaag agaaccctcc ccctttgctt tgatgaccat gaccagctg tgatccatga 120
 gaacgcattc cagcccgagg tgcctggccc catccgctgg acatggagat ccatgggccc 180
 aagctgcgag acgccttcac ctggaacatg aatgagaagt tgatgacgcc tgagatgttt 240
 tcagaaatcc tctgtgacga tctggatttg aaccgcctga cgtttgtgcc agccatcgcc 300
 tctgccatca gacagcagat cgagtcctac cccacggaca gcatcctgga ggaccagtca 360
 gaccagcgcg tcatcatcaa gctgaacatc catgtgggaa acatttcctt g 411

<210> 665
 <211> 409
 <212> DNA
 <213> Homo sapien

<400> 665
 ggacgagggg cgaatcgagc cttctgagac caggggttgc ccgtccgtgc tccgcctcgc 60
 catgacttcc tacagctatc gccagtcgtc ggccacgtcg tccttcggag gcctgggccc 120
 cggtccgtg cgttttgggc cgggggtcgc ttttcgcgcg cccagcatc acgggggctc 180
 cggcgccgcg ggcgtatccg tgctcctcgc ccgctttgtg tcctcgtcct cctcgggggg 240
 ctacggcgcg ggcctacggc gcgtcctgac cgcgtccgac gggctgctgg cgggcaacga 300
 gaagctaacc atgcagaacc tcaacgaccg cctggcctcc tacctggaca aggtgcgcgc 360
 cctggaggcg gccaacggcg agctagaggt gaagatccgc gactggtac 409

<210> 666
 <211> 411
 <212> DNA
 <213> Homo sapien

<400> 666
 ggacgaggtg gagctgaacc aagaaggagg aggggggtcgg gcctccgagg aaggccctagc 60
 tgcctgctgt gccaggaatt ccagggttga gggggcgcaa cctcctgcca gccttcaggc 120
 caactctctg tgccctgccg aagagacaga gcttgaggag agcttgagga gagcaggaaa 180
 gcagcctccc ccgttgcccc tctggatcca ctgcttaaat acggacgagg acagggccct 240
 gtctcctcag cttcaggcac caccactgac ctgggacagt gaatcgacaa tgccgtcttc 300
 tgtctcgtgg ggcctcctcc tgctggcagg cctgtgctgc ctggtccctg tctccctggc 360
 tgaggatccc caggagagatg ctgcccagaa gacagataca tcccaccatg a 411

<210> 667
 <211> 412
 <212> DNA
 <213> Homo sapien

<400> 667
 ggacgagga ttatccagaa ccttgagaaa gacagacaaa aattggctcag cagccaggag 60
 caagacagag aacagttaat tcagaagctt aattgtgaaa aagatgaagc tattcagact 120
 gccctaaaag aatttaaat ggagagagaa gttgttgaga aagagttatt agaaaaagt 180
 aaacatcttg agaataaat agcaaaaagt cctgccattg actctaccag aggagattct 240
 tcaagcttag ttgtgaact tcaagaaaag cttcagggaag aaaaagctaa gtttctagaa 300
 caacttgaag agcaagaaaa aagaaagaat gaagaaatgc aaaatgttcg aacatctttg 360
 attcggaac aacagaccaa ttttaacact gttttaacaa gagagaaaat ga 412

<210> 668
 <211> 411.

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(411)
<223> n = A,T,C or G

<400> 668

ggcacgaggg	tctngggcgc	gctcananna	gatnatcaac	ctgcgagagg	tcagcaccng	60
cttcncctg	ncacccggg	agtannnnnt	aattgtgaan	aagatgaaag	ctattcagac	120
ttgncctnn	ataatttnaa	ttgnggagga	gaanntntn	tnatcaaaag	ttnttttana	180
aaaagntann	ncatcttnnn	ntaatnaaag	tattacanna	ntnactgccn	attgacttta	240
ccanaagaga	angcttcnng	gctttgttgc	tgaancttaa	tnaaaaggnt	atggggantn	300
nanaaaant	aanttnnnn	ganntaatct	ttgnttgag	cttatcatnn	ttngntatna	360
aannaganaa	tantttctaat	nnntgttttc	gaatctatna	tnnctnnntt	t	411

<210> 669
<211> 412
<212> DNA
<213> Homo sapien

<400> 669

ggcacgaggg	cagagaaaacc	agattctctc	tcagcagtta	cagcagatgg	aagctgagca	60
taatactttg	aggaacactg	tggaacaga	aagagaggag	tccaagattc	tactggaaaa	120
gatggaaactt	gaagtggcag	agagaaaatt	atccttccat	aatctgcagg	aagaaatgca	180
tcatctttta	gaacagtttg	agcaagcagg	ccaagcccag	gctgaactag	agtctcggta	240
tagtgctttg	gagcagaagc	acaaagcaga	aatggaagag	aagacctctc	atattttgag	300
tcttcaaaag	actggacaag	agctgcagtc	tgctgtgat	gctctaaagg	atcaaaattc	360
aagctttctc	caagataaga	atgaacaggc	agttcagtc	gcccagacca	tt	412

<210> 670
<211> 411
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(411)
<223> n = A,T,C or G

<400> 670

ggcacgagga	gagggacttc	cagagaagct	ggttataaaa	aaccagcaat	ttcacaagga	60
acgagagcag	ccaccagat	ttgcacagcc	tggtccttt	gagtatgaat	atgccatgcg	120
ctggaaggca	ctcattgaga	tggaagga	gcancaggac	caagtggacc	gcaacatcaa	180
ggaggctcgt	gagaagctgg	agatggagat	ggaagctgca	cgccatgagc	accaggtcat	240
gctaattgaga	caggatttga	tgaggcgcca	agaagaactt	cggaggatgg	aagagctgca	300
caaccaagag	gtgcaaaaac	gaaagcaact	ggagctcagg	caggaggaag	ancgcaggcg	360
ccgtgaagaa	ganatgcggc	ggcagcaaga	agaaatgatg	cggcgacagc	a	411

<210> 671
<211> 411
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(411)

<223> n = A,T,C or G

<400> 671

```
ggcacgaggg caacatccag cctcctgaca aggtgatccg ggcgggcccc gcaggaatth 60
tatccctca ccggcctcac actagtatcg catgtccact atccagaacc tccaatctth 120
cgaccctth gctgatgcaa ctaagggtga cgacttactn ccggcaggga ctgaggatta 180
cattcatata agaattccagc aacggaacgg cagaaaagaca ctgactactg ttcaggggcat 240
tgcagatgat tatgacaaaa agaaacttgt gaaagctthc aaaaagaaat ttgcctgtaa 300
tggtagtggt attgaacatc ctgaatacgg agaggttatt cagcttcaag gtgaccaaag 360
aaaaaacatc tgccagthtc tcttgagggt tggcattgta aaggaggaa a 411
```

<210> 672

<211> 409

<212> DNA

<213> Homo sapien

<400> 672

```
ggcacgaggg ccactccacc ttactaccag acaaccttag ccaaaccatt tacccaaata 60
aagtataggc gatagaaatt gaaacctggc gcaatagata tagtaccgca agggaaagat 120
gaaaaattat aaccaagcat aatatagcaa ggactaacc cttatccctc tgcataatga 180
attaactaga aataactttg caaggagagc caaagctaag acccccgaaa ccagacgagc 240
tacctaagaa cagctaaaag agcacacccg tctatgtagc aaaatagtgg gaagatttat 300
aggtagaggg gacaaacctc ccgagcctgg tgatagctgg ttgtccaaga tagaatctta 360
gttcaactth aaatttgccc acagaacct ctaaatcccc ttgtaaatt 409
```

<210> 673

<211> 412

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(412)

<223> n = A,T,C or G

<400> 673

```
ggcacgaggg gaaaanctgg gcccntctn cacagccgac caanggcagc gggctctgcc 60
cggcgcgct ttctgcgacc tggccgtcag cccacgctcg ccggcctgga ggggcaaaga 120
ggacgagggg gccgcggctt cctccgggga ccttggttg cctggattgc caggagctgg 180
aagttgacat tgagtctagg ctgaggatgg aaggtgtgga gctgaaggaa gaatggcagg 240
atgaagattt tccaatacct ttaccagaag atgacagcat tgaagcagat acactagatg 300
gaactgatcc agacagacag cctggctcct tagaagttaa tgggaacaaa gtaaggaaga 360
aactgatggc ccagacatc agcctgacct tggatcctgg tgaagactct ct 412
```

<210> 674

<211> 413

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(413)

<223> n = A,T,C or G

<400> 674

```
gcacagcctc acttctaacc ttctggaacc caccaccac tgccaagctc actattgaat 60
ccacgcgctt caatgtcgca gaggggaagg aggttcttct actcgccac aacctgcccc 120
agaatcgtat tggttacagc tggtaaaaag gcgaaagagt ggatggcaac agtctaattg 180
```


<211> 410
 <212> DNA
 <213> Homo sapien

<400> 678
 ggcacgagga attaatgaag tctttaatga acttatatta gatgtgttaa agcagggtta 60
 catgatgaaa aagggccaca gacggaaaaa ctggactgaa agatggtttg tactaaaacc 120
 caacataatt tcttactatg tgagtggagga tctgaaagga taagaaagga gacattctct 180
 tggatgaaaa ttgctgtgta gagtccctgc ctgacaaaga tggaaagaaa tgcctttttc 240
 togtaaaaatg ttttgataag acttttgaaa tcagtgcctc agataagaag aagaaacagg 300
 agtggattca agccattcat tctactattc atctgttgaa gctgggcagc cctccaccac 360
 acaaagaagc ccgccagcgt cggaaagaac tccggaagaa gcagctggct 410

<210> 679
 <211> 410
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(410)
 <223> n = A,T,C or G

<400> 679
 ggcacgaggg agagagaata gtctgagttt tttttttttt ttattgcaag catatttctt 60
 ttaatgactc cagtaaaatt aagcatcaag taaacaagtg gaaagtgacc tacactttta 120
 acttgtctca ctagtgccta aatgtagtaa aggctgctta agttttgtat gtagttggat 180
 tttttggagt ccgaaggtat ccatctgcag aaattgatgc ccaaattgaa tttggattca 240
 agtggattct aaatactttg cttatcttga agagagaagc ttcataagga ataaacaagt 300
 tgaatagaga aaacactgat tgataatagg cattttagtg ggctttttta tgntttctgc 360
 tgtgaaacat ttcaagattt attgattttt ttttttctact ttcccatca 410

<210> 680
 <211> 410
 <212> DNA
 <213> Homo sapien

<400> 680
 ggcacgaggc aattctggaa acaatgggaa caatggaaaa gagagagagg actcctggaa 60
 aggagcttct gttcagaaat caactgggtc aaaaaatgac tcttgggaca acaataacag 120
 gtctacgggt gggtcctgga actttggccc ccaggactct aatgacaaca aatggggtga 180
 agggaaacaaa atgacatctg gggctctctca gggagaatgg aaacagccga ctgggtctga 240
 tgagttgaaa attggagaat ggagtgggtc aaaccaacca aattctagca ctggagcatg 300
 ggacaatcaa aagggccacc cctccctga aaaccaaggc aatgcccagg ctccctgttg 360
 gggaagatct tccagctcca cagggaagtga agttggagggt caaagcactg 410

<210> 681
 <211> 402
 <212> DNA
 <213> Homo sapien

<400> 681
 gccggagcct accctgccac tggcccctat ggcgcccctg ctgggccact gattgtgcct 60
 tataacctgc ctttgcctgg gggagtgggt cctcgcatgc tgataacaat tctgggcacg 120
 gtgaagccca atgcaaacag aattgcttta gatttccaaa gagggaatga tgttgccttc 180
 cactttaacc cagccttcaa tgagaacaac aggagagtca ttgtttgcaa tacaaagctg 240
 gataataact ggggaaggga agaaagacag tcggttttcc catttgaaag tgggaaacca 300
 ttcaaaatac atgtactggt tgaacctgac cacttcaagg ttgcagtga tgatgctcac 360

ttgtttgcagt acaatcatcg gggttaaaaaa ctcaatgaaa tc

402

<210> 682

<211> 401

<212> DNA

<213> Homo sapien

<400> 682

gggagcagcgg agttagcagg gctttactgc agagcgcgcc gggcactcca ggcaccgtgg	60
ggatcagcgt aggtgagctg tggccttttg cgaggtgctg cagccatagc tacgtgcgtt	120
cgctacgagg attgagcgtc tccacccatc ttcttgtgct tcaccatcta cataatgaat	180
cccagtatga agcagaaaca agaagaaatc aaagagaata taaagaatag ttctgtccca	240
agaagaactc tgaagatgat tcagccttct gcactctggat ctcttggttg aagagaaaat	300
gagctgtccg caggcttgct caaaaggaaa catcggaatg accacttaac atctacaact	360
tccagccctg gggttattgt cccagaatct agtgaataa a	401

<210> 683

<211> 3255

<212> DNA

<213> Homo sapien

<400> 683

accgttgagg cgcagggggt ctgggcaggg ctgggcagtg ctgccggagc aaaagcggta	60
gcgggagccc ggccggagct gggctctggag acgccgtggc agcctgaacg gagggtgcga	120
cggtattgga gggttgtcta cagattttga gcgttcgaag ttgacccttg actaagtata	180
ctttgtgtct cctcagcctt ttgaaaaaat gtctgtcaca tatgatgatt ccgttgagg	240
agaagtgtcc agcagacgct tctgggagggt cgggaactac aagcggactg tgaagcggat	300
cgacgatggc caccgcctgt gcagcgacct catgaactgc ctgcagagc gggcgcgcac	360
cgagaaggcg tatgcgcagc agctcactga gtgggcccgg cgctggaggc agcttggtga	420
gaaaggggcc cagtagcgga ccgtggagaa ggcctggatg gccttcagtg ccgaggcaga	480
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<210> 692
 <211> 1210
 <212> PRT
 <213> Homo sapiens

<400> 692

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 Asp Asn Ile Val Val Glu Asp Leu Arg Asp Tyr Trp Pro Gly Pro Gly
 65 70 75 80
 Lys Phe Ser Arg Thr Asp Tyr Val Ala Ser Ser Ile Gln Arg Gly Arg
 85 90 95
 Asp Met Gly Leu Pro Ser Tyr Ser Gln Ala Leu Leu Ala Phe Gly Leu
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 Val Leu Glu Ala Thr Ala Ala Leu Tyr Asn Gln Asp Leu Ser Gln Leu
 130 135 140
 Glu Leu Leu Leu Gly Gly Leu Leu Glu Ser His Gly Asp Pro Gly Pro
 145 150 155 160
 Leu Phe Ser Ala Ile Val Leu Asp Gln Phe Val Arg Leu Arg Asp Gly
 165 170 175
 Asp Arg Tyr Trp Phe Glu Asn Thr Arg Asn Gly Leu Phe Ser Lys Lys
 180 185 190
 Glu Ile Glu Asp Ile Arg Asn Thr Thr Leu Arg Asp Val Leu Val Ala
 195 200 205
 Val Ile Asn Ile Asp Pro Ser Ala Leu Gln Pro Asn Val Phe Val Trp
 210 215 220
 His Lys Gly Ala Pro Cys Pro Gln Pro Lys Gln Leu Thr Thr Asp Gly
 225 230 235 240
 Leu Pro Gln Cys Ala Pro Leu Thr Val Leu Asp Phe Phe Glu Gly Ser
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 Ser Pro Gly Phe Ala Ile Thr Ile Ile Ala Leu Cys Cys Leu Pro Leu
 260 265 270
 Val Ser Leu Leu Leu Ser Gly Val Val Ala Tyr Phe Arg Gly Arg Glu
 275 280 285
 His Lys Lys Leu Gln Lys Lys Leu Lys Glu Ser Val Lys Lys Glu Ala
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 Ser Ser Pro Ile Ile Ile Gln Leu Leu Ser Asp Arg Cys Leu Gln Val
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Leu Leu Lys Ile Pro Lys Glu Tyr Asp Leu Val Leu Leu Phe Ser Ser 370 375 380		
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Phe Arg Lys Ala Val Thr Lys Gln Gln Arg Glu Arg Ile Leu Glu Ile 420 425 430		
Phe Phe Arg His Leu Phe Ala Gln Val Leu Asp Ile Asn Gln Ala Asp 435 440 445		
Ala Gly Thr Leu Pro Leu Asp Ser Ser Gln Lys Val Arg Glu Ala Leu 450 455 460		
Thr Cys Glu Leu Ser Arg Ala Glu Phe Ala Glu Ser Leu Gly Leu Lys 465 470 475 480		
Pro Gln Asp Met Phe Val Glu Ser Met Phe Ser Leu Ala Asp Lys Asp 485 490 495		
Gly Asn Gly Tyr Leu Ser Phe Arg Glu Phe Leu Asp Ile Leu Val Val 500 505 510		
Phe Met Lys Gly Ser Pro Glu Asp Lys Ser Arg Leu Met Phe Thr Met 515 520 525		
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Met Met Arg Ser Phe Ile Glu Ile Ser Asn Asn Cys Leu Ser Lys Ala 545 550 555 560		
Gln Leu Ala Glu Val Val Glu Ser Met Phe Arg Glu Ser Gly Phe Gln 565 570 575		
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His Asp Ser Glu Leu Arg Phe Thr Gln Leu Cys Val Lys Gly Gly Gly 595 600 605		
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Arg Val Ser Phe Ile Thr Arg Thr Pro Gly Glu Arg Ser His Pro Gln 625 630 635 640		
Gly Leu Gly Pro Pro Ala Pro Glu Ala Pro Glu Leu Gly Gly Pro Gly 645 650 655		

Leu Lys Lys Arg Phe Gly Lys Lys Ala Ala Val Pro Thr Pro Arg Leu
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 Tyr Thr Glu Ala Leu Gln Glu Lys Met Gln Arg Gly Phe Leu Ala Gln
 675 680 685
 Lys Leu Gln Gln Tyr Lys Arg Phe Val Glu Asn Tyr Arg Arg His Ile
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 Val Cys Val Ala Ile Phe Ser Ala Ile Cys Val Gly Val Phe Ala Asp
 705 710 715 720
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 Thr Thr Leu Val Gly Ile Ile Leu Ser Arg Gly Thr Ala Ala Ser Val
 740 745 750
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 755 760 765
 Thr Phe Leu Arg Glu Thr Phe Leu Asn Arg Tyr Val Pro Phe Asp Ala
 770 775 780
 Ala Val Asp Phe His Arg Trp Ile Ala Met Ala Ala Val Val Leu Ala
 785 790 795 800
 Ile Leu His Ser Ala Gly His Ala Val Asn Val Tyr Ile Phe Ser Val
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 Ser Pro Leu Ser Leu Leu Ala Cys Ile Phe Pro Asn Val Phe Val Asn
 820 825 830
 Asp Gly Ser Lys Leu Pro Gln Lys Phe Tyr Trp Trp Phe Phe Gln Thr
 835 840 845
 Val Pro Gly Met Thr Gly Val Leu Leu Leu Leu Val Leu Ala Ile Met
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 Tyr Val Phe Ala Ser His His Phe Arg Arg Arg Ser Phe Arg Gly Phe
 865 870 875 880
 Trp Leu Thr His His Leu Tyr Ile Leu Leu Tyr Ala Leu Leu Ile Ile
 885 890 895
 His Gly Ser Tyr Ala Leu Ile Gln Leu Pro Thr Phe His Ile Tyr Phe
 900 905 910
 Leu Val Pro Ala Ile Ile Tyr Gly Gly Asp Lys Leu Val Ser Leu Ser
 915 920 925
 Arg Lys Lys Val Glu Ile Ser Val Val Lys Ala Glu Leu Leu Pro Ser
 930 935 940
 Gly Val Thr Tyr Leu Gln Phe Gln Arg Pro Gln Gly Phe Glu Tyr Lys
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199

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 Tyr His Pro Phe Thr Leu Thr Ser Ala Pro His Glu Asp Thr Leu Ser
 980 985 990
 Leu His Ile Arg Ala Val Gly Pro Trp Thr Thr Arg Leu Arg Glu Ile
 995 1000 1005
 Tyr Ser Ser Pro Lys Gly Asn Gly Cys Ala Gly Tyr Pro Lys Leu Tyr
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 Cys Lys Lys Ile Tyr Phe Ile Trp Val Thr Arg Thr Gln Arg Gln Phe
 1075 1080 1085
 Glu Trp Leu Ala Asp Ile Ile Gln Glu Val Glu Glu Asn Asp His Gln
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 Asp Leu Val Ser Val His Ile Tyr Val Thr Gln Leu Ala Glu Lys Phe
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 1140 1145 1150
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 Pro Gln Val Arg Lys Ile Gly Val Phe Ser Cys Gly Pro Pro Gly Met
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<210> 693
 <211> 277
 <212> PRT
 <213> Homo sapiens

<400> 693
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 35 40 45
 Asn Val Thr Ile Val Thr Ile Leu Ala Glu Thr Thr Ser Asp Asn Glu
 50 55 60
 Lys Thr Val Thr Glu Lys Ile Asn Lys Ala Ile Arg Ser Ser Ser Ser
 65 70 75 80
 Asn Phe Leu Asn Tyr Asp Leu Thr Leu Arg Cys Asp Tyr Tyr Gly Cys
 85 90 95
 Asn Gln Thr Ala Asp Asp Cys Leu Asn Gly Leu Ala Cys Asp Cys Lys
 100 105 110
 Ser Asp Leu Gln Arg Pro Asn Pro Gln Ser Pro Phe Cys Val Ala Ser
 115 120 125
 Ser Leu Lys Cys Pro Asp Ala Cys Asn Ala Gln His Lys Gln Cys Leu
 130 135 140
 Ile Lys Lys Ser Gly Gly Ala Pro Glu Cys Ala Cys Val Pro Gly Tyr
 145 150 155 160
 Gln Glu Asp Ala Asn Gly Asn Cys Gln Lys Cys Ala Phe Gly Tyr Ser
 165 170 175
 Gly Leu Asp Cys Lys Asp Lys Phe Gln Leu Ile Leu Thr Ile Val Gly
 180 185 190
 Thr Ile Ala Gly Ile Val Ile Leu Ser Met Ile Ile Ala Leu Ile Val
 195 200 205
 Thr Ala Arg Ser Asn Asn Lys Thr Lys His Ile Glu Glu Glu Asn Leu
 210 215 220
 Ile Asp Glu Asp Phe Gln Asn Leu Lys Leu Arg Ser Thr Gly Phe Thr
 225 230 235 240
 Asn Leu Gly Ala Glu Gly Ser Val Phe Pro Lys Val Arg Ile Thr Ala
 245 250 255
 Ser Arg Asp Ser Gln Met Gln Asn Pro Tyr Ser Arg His Ser Ser Met
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 275

<210> 694

<211> 157

<212> DNA

<213> Homo sapien

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ggggtcttaa ttgaaatgaa aattttaattt tgttttt 157

<210> 695
<211> 241
<212> DNA
<213> Homo sapien

<400> 695
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aaaaaggaga aaaaagacag aactaaaccc gtttaggaaa aagggaaccga gggacagcag 120
tggttaagta atccactgag gacctgaagg ggaaaatgga cttacctttc tcatatactt 180
ggcctggcta ggacactggg tgccagacag ccttctgagg ggattttctt tctaaatgag 240
g 241

<210> 696
<211> 188
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(188)
<223> n = A,T,C or G

<400> 696
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gnagacaagc atagatggga ttctggctga tgtgaagaac ttggagaaca ttagggacaa 120
cctgccccca ggctgctaca ataccaggc tcttgagcaa cagtnaagct gccataaata 180
tttctcaa 188

<210> 697
<211> 289
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(289)
<223> n = A,T,C or G

<400> 697
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acccatcagg ccaagcagga cttgtnaaac atacacattc aagttcctag cacacagtag 120
gtgctaagtg ggaattgatt ataaacttga attcttccat caacaaatat ctacctctcc 180
tgtccagctt gcctcagatc ttcaggntct ctcttctctg aggcagctaa gcttctacat 240
ccttcagtga gtttccttta cttctcgaca gaagacagtt ccctttagg 289

<210> 698
<211> 193
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(193)

202

<223> n = A,T,C or G

<400> 698

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tgtaatat	cgcttcctaa	atttcttcca	cctacagata	atagacaaca	agtctgagaa	120
actaaggcta	accaaactta	gatataaatc	ctaccaataa	aatttttcag	ntttaagttt	180
tacagtttga	ttt					193

<210> 699

<211> 279

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(279)

<223> n = A,T,C or G

<400> 699

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taagaccagt	atagtaaact	tagccacag	tggcaataa	tgagtaatat	tgtaatatgt	120
tccagnggga	taccctcctt	gtcttgaatt	ttggctttga	cattctcaat	ggtgtcactg	180
ggctcgacct	caagggtgat	ggttttgcca	gtgagggtct	tcacaaagat	ctgcatgttt	240
gcgctccgac	gaccgccgac	accaaccagc	tcggccgac			279

<210> 700

<211> 340

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(340)

<223> n = A,T,C or G

<400> 700

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tatgagtgtg	gaatccagaa	caaattaagt	gttgaccaca	gcgaccagc	catcctgaat	120
gtcctctatg	gccagacga	ccccaccatt	tccccctcat	acacctatta	ccgnccaggg	180
gtgaacctca	gcctctcctg	ccatgcagcc	tctaaccac	ctgcacagta	ttcttggtg	240
attgatggga	acatccagca	acacacacaa	gagctcttta	tctccaacat	cactgagaag	300
aacagcggac	tctataacctg	ccaggccaat	aactcagcca			340

<210> 701

<211> 277

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

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<223> n = A,T,C or G

<400> 701

ccactggctg	agntattggc	ctggcaggna	tagagtccgc	tgttcttctc	agtgatgttg	60
gagataaaga	gctcttgtgt	gtgttgctgg	atgttcccat	caatcagcna	agaatantgt	120
gcagggtggg	tagaggctgc	atggcaggag	aggctgaggt	tcacccctgg	acggtaatag	180
gngtatgagg	gggaaatggt	ggggtcgtct	gggccataga	ggacattcag	gatgactggg	240

tcgctgtggt caacacttaa tttgttctgg attccac

277

<210> 702
<211> 255
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(255)
<223> n = A,T,C or G

<400> 702
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cggaaatcca ttgcccggtg tctcanagtt attaaccaga ctcagaaaaga aaacctcagg 120
aaattctaca agggcaagaa gtacaagccc ctggacctgc ggctaagaa gacacgtgcc 180
atgcgccgcc ggctcaacaa gcacgaggag aacctgaaga ccaagaagca gcagcggaag 240
gagcggctgt acccg 255

<210> 703
<211> 224
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(224)
<223> n = A,T,C or G

<400> 703
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aggacagcag gggncctggg gttttagcct ctggcccagg agttatgtgt ccataaccaa 120
agggagcaca gtctgcaccc agctctcatc ccatcgagc tgetgcgact cccgcaggnt 180
cttccggaac tggtttagct tgcccgcagn atcagnaaag ttg 224

<210> 704
<211> 445
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(445)
<223> n = A,T,C or G

<400> 704
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ttcagagcat tattattaat ctttcttaaa ttaaagtcag ggccaagcat gctgcacgtg 120
gaatctggac aattttttga taaactttta ggctgctaaa taatttacag aaactgtgaa 180
tgcattttca ttttacgagg caaaagagaa aatattcaag attgcatagc aattttattt 240
tttgaaatgg ntatcctaaa gaatttcctt aaattcagat tttgcaaaat tcctactctc 300
caagtcatca agngaacact aaaagcaact ttactcgtga atacagggga ctctttacga 360
ggcatgcatt tttcataaat ctaggccaaa gngaactaat tgagatttaa ttctaaattc 420
atcctnggat ttctcatat aatat 445

<210> 705
<211> 107
<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(107)

<223> n = A,T,C or G

<400> 705

atcacccnat ttaattaaaa atccctggnc tnaggaccta cagcanngta ctgnagaact	60
tnagaacctn aattagccat ttgccatctt nagagagtct tnnccat	107

<210> 706

<211> 113

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(113)

<223> n = A,T,C or G

<400> 706

aaatagtctt taaaggcaag gnccttgctat gttgcttagg ctggttttga aaagtccctt	60
ttgggggggat gctttcactg cttcacttcc tttctatgac agctnaggga atc	113

<210> 707

<211> 283

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(283)

<223> n = A,T,C or G

<400> 707

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ccgtgtgggtg atccagcgtg atgaggggtca ccacgtggcc tacaccacgc gggaggtggg	120
ccagtanctg gngngggagt ccagcacggg catcatcgnc atctgggaca agaggaccac	180
cgtgttcatac aagctggctc cctcctanaa gggcacctg ngnggcctgt gtgggnactt	240
tgaccaccgc tccaacaacg acttcaccac gcgggnccac atg	283

<210> 708

<211> 341

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(341)

<223> n = A,T,C or G

<400> 708

ctgtccaatg acaacaggac cctcactcta ctcagtgtca caaggaatga tgtaggaccc	60
tatgagtgtg gaattccagaa caaattaagt gttgaccaca gcgaccagc catcctgaat	120
gtcctctatg gccagacga cccaccatt tccccctcat acacctatta ccgtccaggg	180
gngaacctca gcctctcctg ccatgcagcc tctaaccacac ctgcacagta ttcttggtg	240
attgatggga acatccagca acacacacaa gagctcttta tctccaacat cactgagaag	300

aacagcggac tctatacctg ccaggccaat aactcagcca g 341

<210> 709
<211> 376
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(376)
<223> n = A,T,C or G

<400> 709
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anaccgaggg tcgagccgtg ctgcacgtgg ctctgcggaa ccggtcaaan acacnnatcc 120
tggtagacgg caaggatgtg atgccagagg tcaanaaggt tctgganaag atgaagtctt. 180
tctgccagcg tgtccggagc ggngactgga aggggtanac aggcaagacc atcacggacg 240
tcatcaacat tggcattggc ggctccgacc tgggaccctt catggngact gaagccctta 300
agtcatactc ttcaggaggc ccccgcgctt gggatgntc caacattgat ggaactcaca 360
ttgccaaaac cctggc 376

<210> 710
<211> 232
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(232)
<223> n = A,T,C or G

<400> 710
ctgctgtata ttcagcattg tgggaggagc tgtgaaagac anagaacagt anaggggtgtg 60
gnccctgccc tcgagaggnt tanagtctag gtggagaaac gggaancagg acacatgggg 120
agccgagaga aaanagtcca gccagtatg ttacaggagc tggaagggtg ttgggggtcag 180
accccaatac tccaagtaca ctaagcactt cagtgcctcc agggggtcaa cg 232

<210> 711
<211> 317
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(317)
<223> n = A,T,C or G

<400> 711
caggtaaaat agatttaatt taggaaagct ctttttatat gagtttccaa ctaattatta 60
gagtcagaaa caaagaaaat aaaatcagag aaaatcctct gtagaaaaaa tacacaaaaga 120
acattttctac atgtgaaaaa acagtaaaca gtgttaacat ccaagttatt agtctcaatt 180
ccacgtctcc tagtgaacac cactatcaac cttgagatct gatttgntct tgtcattctt 240
cactgagtag atgaaatatg ttaaggtgtc tttttcatto actggaatag acctaaagt 300
gcaaccaact atctcaa 317

<210> 712
<211> 154
<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(154)

<223> n = A,T,C or G

<400> 712

tntgtagaaa aaatanacaa agaacatttn tanatgtgaa aaaacagtaa acagngttaa	60
catccaagtt attagtctca attccacgtc tcctagttaa caccactntc aaccttgaga	120
tctgatttgn tottgtcatt cttcactgag taga	154

<210> 713

<211> 177

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(177)

<223> n = A,T,C or G

<400> 713

ccattcagag gtagaagatg gaggggcggc agattctggc agggcagcag agggctctat	60
gcacgggttt caaacctgtt ttccacactc tgtctttgca gntttggtaa ttctgtggtc	120
tatttatana gatattaaaa tcttgtttat aaaaaaaaaa aaaaaaaaaa aaaaaaa	177

<210> 714

<211> 216

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(216)

<223> n = A,T,C or G

<400> 714

ctgtgtttcg gctataaaaa ggcggctgaa agaaggggaa aattanttta gacttaattg	60
gaagtttcat atggcacaca ttaccagnag agaaaaagat ataaacggca ataaatatta	120
ggctcgattt gagaaactct cccacactca atgctttctt ttcccttgct atttaagggt	180
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<210> 715

<211> 376

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(376)

<223> n = A,T,C or G

<400> 715

ctgtgcgagt gtaccggatg cttccacctc tcaccaagaa ccagagaaaa gaaagaaagt	60
cgaagtccag ccgagatgct aagagcaagg ccaagaggaa gtcatgtggg gattccagcc	120
ctgatacctt ctctgatgga ctcagcagct ccaactctgcc tgatgaccac agcagctaca	180
cagttccagg ctacatgcag gacttggagg nggagcaggc cctgactcca gctacaacag	240

atgaggatga ggaagggaaa ttacctgagg acatcatgaa gctcttggag cagncggagt	300
ggcagccaac aagcgtggat ggaaggggt acntactcaa tgaacctgga gnccagccca	360
cctctgtcta tggaga	376

<210> 716
 <211> 96
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(96)
 <223> n = A,T,C or G

<400> 716	
aaacttttta tttgcatatt aaaaaaattg tgcattccaa taattaaaat catttgaana	60
aaaaaaaaat ggcncntntga ttaaactgca ttacag	96

<210> 717
 <211> 366
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(366)
 <223> n = A,T,C or G

<400> 717	
gatggaaagg atacagatga catcaagatc cccatgctgt tcttattcag caaagaagga	60
agtatcatatc tggatgccat ccgggaatat gaggaggtag aagngtcct ctctgataaa	120
gcaaaaagatc gagatcctga aatggaaaat gaagaacaac catcctctga aaatgattct	180
cagaatcaga gtggtgaaca gatttcatca agttctcagg aggntgattt ggntgatcaa	240
gagtcttctg aggaaaattc tctaaattct caccacagaat cattatctct agcagatatg	300
gacaatgctg caagcatttc cccttctgaa cagacttcta atnccacaga aaaccatgag	360
actaca	366

<210> 718
 <211> 200
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(200)
 <223> n = A,T,C or G

<400> 718	
aaacatctca catatanaaa ataggtacaa ttttaatttt ctgcttgccc aagaaacaaa	60
gcttctgtgg aaccatggaa gaagatgaaa atgagactgg caaagaacaa atgctgaatc	120
tgaagaagat ttgggcaaat aatctgcata cttttaattg ggaataagat ggaaaatatg	180
aatgctaaat caaatttttt	200

<210> 719
 <211> 336
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(336)

<223> n = A,T,C or G

<400> 719

ctgtctcaca	ctttgcaagc	tgtgagagac	acatcagagc	cctgggcact	gtcactgctt	60
gcagcctgag	ngtaactccc	tcctttttcta	tctgagctct	tcctcctcca	catcacggca	120
gcgaccacag	ctccagtgat	cacagctcca	aggagaacca	ggccagcaat	gatgcccacg	180
atggggatgg	tgggctggga	agacagctcc	catctcaggg	tgaggggctt	gggcagaccc	240
tcatgctgca	catggcaggc	gtatctctgc	tcctctccag	aaggcaccac	cacagccgcc	300
cacttctgga	aggntccatc	cccttgccagg	ccttgg			336

<210> 720

<211> 167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(167)

<223> n = A,T,C or G

<400> 720

ggagagtgt	agtgaggcgg	ccaagaagta	natggaggag	aatgannagc	tcaagaaggg	60
agctgctgtt	gacggaggca	agttggatgt	cggaatgct	gaggtgaagt	tggaggaaga	120
gaacaggagc	ctgaaggctg	acctgcagaa	gctaaaggac	gagctgg		167

<210> 721

<211> 134

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(134)

<223> n = A,T,C or G

<400> 721

cctagtatga	ggagcggtat	ggagtgggaag	tgaaatcana	tggttaggcc	ggaggncatt	60
aggagggctg	agagggcccc	tgtaggggt	catgggctgg	gntttacgtg	cgtgaggagg	120
ggcggagctt	gcag					134

<210> 722

<211> 353

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(353)

<223> n = A,T,C or G

<400> 722

aaaaatatat	acaactatga	tgttcaaata	tgtattctga	gccattatgt	tcaaacataa	60
atatctggga	aattcaaact	gctgcaacaa	gttaggaaag	gattaaggaa	aatgatgag	120
ctacaaatta	tgtagttgga	ggaagaaaaa	aatgttactt	agcatttatg	tctggatagg	180
tatgtatttt	ctaatttaca	tacacatatc	cagntgagta	tagacaacca	tcaaatgta	240

accagttaca cagagactag actaagccaa cactattttc tataacaggn aacagtagng 300
 atttcaaaaa ttttaatatc tcaatagttt caccaaaaaa tatttatggg aat 353

<210> 723
 <211> 268
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(268)
 <223> n = A,T,C or G

<400> 723
 ctgagaagag cgccaggaag ccctgggtgc gagagttgat gacgtcgatc tcgtgcaggg 60
 acacggngtg caccacctcc ttgcgtttct ggagctcccc atctgggcac tgcacgaact 120
 tggctggga gccatagcg tcgtagtcgc gggcgngtgt gaaggagcgg cccaacttgg 180
 agatcttgcc cgtcgcttg tcgatggnga tcacgtcccc ggcctggacc ttgtccttgg 240
 ncagggactc aatcatcttg ntgccag 268

<210> 724
 <211> 344
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(344)
 <223> n = A,T,C or G

<400> 724
 aaagaatcag caaaatttca aataaaaaat tatgaaaata ttatcctcat tagttcattt 60
 agncccatga aattaattat tttctctgct cgatcttggt ggacagtttc atgaagctgt 120
 cagttagttc attaaagttt tggaaattct cagacagtgc agtggatatca gaaacttgta 180
 ttcaagagta naggtcagag ncttcttttc ttttcttttc gagatggagt cttgctctgt 240
 tgccagactg gagtgcagtg gtgcgatctg ggctcactgc aatctccacc tcccgggttc 300
 aagcgattct cctgcctcag cctcccaggt aactgggact acag 344

<210> 725
 <211> 345
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(345)
 <223> n = A,T,C or G

<400> 725
 aaacaagaga aagtagacag atacatgttg gnaaatgcta actgtccata ttcacataga 60
 gacacagtgt actctctgag cccaatatan agagaaagga ggaaaaaagc tagaattcta 120
 tgcactacta cacaggggcc tagcaccctc cagcttccag cagagcgaag ggagcaggnt 180
 tttctttttt cccacagagc tcgggggggtt gattccatac agnttttgtt cagacaggaa 240
 gggataaaaa tgaacttoga acagaaaggg gtagagactc ttttccatt gtattctgct 300
 caaggnattt ccccccatt aaattgagaa ceatggagnn gagaa 345

<210> 726
 <211> 305

<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(305)
<223> n = A,T,C or G

<400> 726
ttgcctgatg tcagagcccc tccacacatg agcctgctcc ctactgccaa caccgtggcc 60
cagacagaga cgctttccga ggaagagggtg aagctcctgc agtcgctgaa gnaagganag 120
cagatcgtga ggaaaaagggt cgccgagggtt gggggcatgt ctctcttctt accaagctag 180
actgggntgc cttttctaac tattccagcc ctacagggcg agggggcata atggagtatc 240
ccgcccttt agaccccagg cgctcaccgg cagggcaaga aggnngaatac cagcagccgc 300
gccag 305

<210> 727
<211> 387
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(387)
<223> n = A,T,C or G

<400> 727
ccaacgagggc atcacctctg acgggtgtcag tcatcgatga ccgggtcaag gagaagatgg 60
tggtggagtt ccgccacatg aggaacccatg cctatgagcc actcgccagc ttcctagact 120
tcattactta nagttacatg atcgacaacg ngatcctgct catcacaggc acgctgcacc 180
agcgctccat cgctgagctc gtgcccaagt gccacccact aggcagcttc gagcagatgg 240
aggccgtgaa cattgtctag acacctgctg agctctacaa tgccattctg gtggacacgc 300
ctottgcggc ttttttccag gactgcattt cagagcagga ccttaacgag atgaacatcg 360
agatcatccg caacaccctc tacaagg 387

<210> 728
<211> 109
<212> DNA
<213> Homo sapien

<400> 728
ctgactgaca gccagattgc agatgtggct cgcttttgta accgctaccc taatatcgaa 60
ctatcttatg aggtggtaga taaggacagc atccgcagtg gcggggccag 109

<210> 729
<211> 329
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(329)
<223> n = A,T,C or G

<400> 729
aaagcatagg actatagtcg gcatgctaga ctgagaggta aacactgatg caattagaac 60
aggtagctg gctgtcagtg tttaacacta tgtttagctg tgtttatgct ataaaagtgc 120
aatattagac actagctagt actgctgcct catgtaactc caaagaaaac aggatttcac 180

taagtgcatt	gaatgtggct	atctctctaa	gttactcata	ttgtcctttg	cttgaatgca	240
atgccngca	gatttatgtg	gctgctatct	ttatctctg	ngcattactt	taacacctta	300
aagngagaag	caaacatttc	cttcttcag				329

<210> 730
 <211> 238
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(238)
 <223> n = A,T,C or G

<400> 730	
aaaaagtggc	agagtgactt aactgatcat gcatgatccc tcatccctga aattgagttt 60
atgtagncat	tttacttatt ttattcatta gctaactttg tctatgtata tttctagata 120
ttgattagt	taatcgatta taaaggatat ttatcaaacc cagggattgc attttgaaat 180
tataattatt	ttctttgctg aagnattcat tgtaaaacat acaaaataaa catatttt 238

<210> 731
 <211> 297
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(297)
 <223> n = A,T,C or G

<400> 731	
aaactgaatt	ttttgacctt ggaaaatatt tttcttactt taccaagggtg aagtttcctt 60
aattagacta	attatcttat ccccatoccca gggataaac aggaattgtt ttgatagtg 120
tggagttatt	cactgcaaca aagcaacaat gttgtccatg attcaaaacc taagcagttt 180
cgatcttgcc	tgtgaatatg gngtctgtca ttcagggcat agctcactgt aggctagcct 240
ctgcttactt	aagncctctt tctgacatac tcaatggaag aatatttaga tttatttt 297

<210> 732
 <211> 370
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(370)
 <223> n = A,T,C or G

<400> 732		
ctgtcagctt	tctgaaatg aagaaactac accagggctg ctatatcaga gcaaccccaa 60	
ccagcactcc	aatcatgatg ccgacagngg cccaatttag aagntcaaaa acaaaaatta 120	
agttaggtag	ncagacatct ataaatacta gtatccgcat gaatgaaaac accctggctt 180	
tggnatggct	acagaaatcc atctggaaat tattcaaaag gacgtgggtc agggaaaagg 240	
gggtaggcag	ggcatggggg gaggggaaca cacaaaaccc ccaagcagag gtaaaatgaa 300	
tattggaaca	caccocgagc aaacactgta catagacttg aggcagatgc ctctaacaca 360	
acacatatat		370

<210> 733
 <211> 242

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(242)

<223> n = A,T,C or G

<400> 733

cctcctat	ttt attctagcca	cctctagcct	agccgtttac	tcaatcctct	gatcagggtg	60
agcatcaa	aac tcaaactacg	ccctgatcgg	cgcactgcga	gcagtagccc	aagcaatctc	120
atatgaag	nc accctagcca	tcattctact	atcaacatta	ctaataagtg	gctcctttaa	180
cctctccacc	cttatcacia	cacaagaaca	cctctgatta	ctcctgccat	catgaccctt	240
gg						242

<210> 734

<211> 368

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(368)

<223> n = A,T,C or G

<400> 734

cctttctt	gt aagtgaagaa	aaaggaatgc	agcaaagaag	agttcgacat	tgagtcctt	60
agttccat	ca ggatcccat	cgagccttt	agcatcatgt	agaagcaaac	tgacacctatg	120
gctgagat	tag gtgcaatgac	ctacaagatt	ttgngttttc	tagctgtcca	ggaaaagcca	180
tcttcagn	ct tgctgacagt	caaagagcaa	gtgaaacat	ttccagccta	aactacataa	240
aagcagcc	ga accaatgatt	aaagacctct	aaggctccat	aatcatcatt	aaatatgcc	300
aaactcatt	g ngacttttta	ttttatatac	aggattaaaa	tcaacattaa	atcatcttat	360
ttacatg	g					368

<210> 735

<211> 308

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(308)

<223> n = A,T,C or G

<400> 735

ctgtccaata	ggcgtagcta	tccggacaga	gcacgtttgc	agaaggggga	ctcttcttcc	60
aggtagctga	aaggggaaga	cctgacgtac	tntgggttagg	ntaggaacttg	ccctcgtggn	120
ggaaactttt	cttaaaaagt	tataaccaac	ttttctatta	aaagtgggaa	ttaggagaga	180
aggtaggggt	tggaatcag	agagaatggc	tttggnctct	tgettgtggg	actagcctgg	240
cttgggacta	aatgccctgc	tctgaacacg	aagcttagna	taaactgatg	gatatcccta	300
ccttgaaa						308

<210> 736

<211> 354

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(354)
 <223> n = A,T,C or G

<400> 736
 ccttctgcta cgtagtctac aacagaagga ttcaggcaat tacctctgcc atgcggngga 60
 acatgggttc atacaaactc ttcttaaggt aaccctggaa gtcattgaca cagagcattt 120
 ggaagaactt cttcataaag atgatgatgg agatggctct aagaccaaag aaatgtccaa 180
 tagcatgaca cctagccaga aggtctggta cagagacttc atgcagctca tcaaccaccc 240
 caatctcaac acgatggatg agttctgtga acaagtttgg aaaagggacc gaaaacaacg 300
 tcggcaaagg ccaggacata ccccagggaa cagtaacaaa tggaagcact taca 354

<210> 737
 <211> 198
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(198)
 <223> n = A,T,C or G

<400> 737
 ctgccgctgc acacgctcgt tcttctctgc ctccagtgat cgcttctcct cattgcggnc 60
 atcccggatg ccctcactag acagctccgc gctgtagccc gtgggctctg cgccctcatc 120
 ctgcaagctc tcttgacat ggtagctcac cggctcgtac acgggggggtg gtgggggagg 180
 gggngctgtc atcaccag 198

<210> 738
 <211> 228
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(228)
 <223> n = A,T,C or G

<400> 738
 gtgccatggc acacagcctg ggtgcacacc cagcgnctc tottgaggt gcaggtattg 60
 cagtccacct tgatcttggc gccggaagaa tanaggtcgt tgttatggac gcaaggcat 120
 tcttctcca ccacgcagcc acccggccg tcatccatca gccgctcggg gcacacacag 180
 ccactgacac actctgtgtg gnaatagccg gcggccagcg nctggcag 228

<210> 739
 <211> 378
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(378)
 <223> n = A,T,C or G

<400> 739
 aaaaaatata ggagtcgata gcagcagttg gtgacgagat ggcactcaga aacggcggtg 60
 acgtaattta ggacgtggaa tcataagcga aacagcacac tgtttgaata aagagcgagt 120
 cggnaatttat atttgnnttt cttttgtcat gattatttga tttttaagnt gctccagcta 180

214

aggcattttt	ttgtattagn	atttctatta	gggaaccttt	cttattaggn	ggnttgatt	240
gtctggnttc	taacatgcag	gtagctgttt	ggcagttaaa	cacgtttaga	gtaattgag	300
ttacaacgtg	tgaaactgag	caaaaaagca	gngataagnt	tgggttacca	taccaaatat	360
ttgttttccc	actggaaa					378

<210> 740
 <211> 200
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(200)
 <223> n = A,T,C or G

<400> 740	
ccacttgagt	ggntcctggc
aggcattctg	ggtaccccat
aaaaagggga	gctcaaaggt
gccatcttct	cccagtttgg
	60
	120
	180
	200

<210> 741
 <211> 273
 <212> DNA
 <213> Homo sapien

<400> 741	
ctgcttgcca	tcgtaatggg
tccagagatc	tcagacttca
ctgccggatc	tgctgccgct
ttcgtcagtc	ccgagtcctt
gaagtcattg	gctgggcgca
	60
	120
	180
	240
	273

<210> 742
 <211> 297
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(297)
 <223> n = A,T,C or G

<400> 742	
ctgcagttgc	tccctttagg
ataacttgtc	agttactgat
tgaataatta	ttagaaaact
aattctgncc	tttttacta
gcaaatttca	ttcacatggt
	60
	120
	180
	240
	297

<210> 743
 <211> 381
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(381)

<223> n = A,T,C or G

<400> 743

ctgcacctcc	acctccttga	agttgaagat	actattgcc	tcaaagccag	cagccagctc	60
tggacagtat	gcctgcaggg	aacctccatg	ccggctcagt	gacacactct	ctgcagccag	120
ggtaatgaac	ttgtcctcag	ctacaaaagc	tgtgagcttg	gctgtgctca	cctccagggt	180
taggttttag	agccgctttg	gggtaatgg	ctcaggggca	cgcccttcta	gctcagaagn	240
agntcctgaa	gnctctagt	caagggatgg	tacagtctca	ggaaacacag	nggctcttag	300
taggnctcgg	cactgtagag	ngnggnatc	cccagagctg	gngatgattt	ggttgtcatc	360
caggaagcgg	caacacgaca	g				381

<210> 744

<211> 167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(167)

<223> n = A,T,C or G

<400> 744

cagcgngggg	ctcggagagg	tgctcggatt	ctcgtagctg	tgccgggact	taaccaccac	60
catgtcgagc	aaaagaanaa	agaccaagac	caagaagcgc	cctcagcgtg	caacatccaa	120
tgtgtttgct	atgtttgacc	agtcacagat	tcaggagttc	aaagagg		167

<210> 745

<211> 96

<212> DNA

<213> Homo sapien

<400> 745

ccacaaactc	ctctggctgt	actccctcct	gcaggagacc	ggcctcactg	cactcagcag	60
gctcttctcc	ctgcgattca	cttctgggac	agtcac			96

<210> 746

<211> 391

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(391)

<223> n = A,T,C or G

<400> 746

ccattacgca	gccgcttcag	caaacagggc	tcctcccggc	cagagggcgg	gaccacagt	60
gccgtcagca	ggctgagatc	cgtctctgag	atgttgatgg	ggatgtcggc	agcagagccg	120
acottttagt	gggacatacg	catggagtcg	tcacctgtga	ccggggcagt	gaaggggctg	180
cctgggacgt	gctgttcatt	gtacttgact	agaatgctgt	agtcccccg	cagcacaggc	240
aagtaggaca	cgctgcnatg	tccatcctg	gttgtcagt	cagtgttgct	tgttcagtat	300
ctcaagccca	gaaagatgaa	ttaatccttg	aaggaaatga	cattgagctt	gtttcaaatt	360
cagcggtttt	gattcagcaa	gccacaacag	t			391

<210> 747

<211> 408

<212> DNA

<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(408)
<223> n = A,T,C or G

<400> 747
aaagttgttt gtgccttttt atttttgttt ttaatgcttt gatatttcaa tgttagcctc 60
aattttctgaa naccataggt agaatgtaaa gcttgtctga tcgttcaaag catgaaatgg 120
atacttataat ggaaattctg ctccagataga atgacagtcc gtcaaaacag attgcttgca 180
aaggggagggc atcagtgctc ttggcaggct gatttctagg taggaaatgt ggnagcctca 240
cttttaaatga acaaatggcc ttattataaaa actgagtgac tctatatagc tgatcagttt 300
tttcacctgg aagcatttgt ttctactttg atatgactgt ttttcggaca gtttatttgt 360
tgagagngtg accaaaagtt acatgtttgc accittctag gtgaaaat 408

<210> 748
<211> 337
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(337)
<223> n = A,T,C or G

<400> 748
ggcggagaga ggcgagcacc gggaagggga gcgnggggcc gctggaatgg gtgaatttaa 60
ggnccatcga gtacgtttct ttaattatgt tccatcagga atccgctgtg tggcttacia 120
taaccagtca aacagattgg ctgtttcacg aacagatggc actgtggaaa ttataactt 180
gtcagcaaac tactttcagg agaaattttt cccaggctcat gagnetcggg ctacagaagc 240
tttggtctgg gcagaaggac agcgactctt tagtgctggg ctcaatggcg agattatgga 300
gnatgattta caggcggtta acatcaagta tgctatg 337

<210> 749
<211> 261
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(261)
<223> n = A,T,C or G

<400> 749
ccgggaggct ctgattatth acccaaccaca ggtaggttgt gttctgaatc tcagggttcac 60
aggtttaaggo tacagcatcc tcatcctcca cggggttgga gttgttgctg gngatgaagg 120
gtttgggtgg ctctgcatag actgtgatcg ncgtgactgt ggnccatttg aggccagtgt 180
ctgagttatg ggcttgccac gtataggatc cactattatt cacagnatg ttggggataa 240
agagctcttg gnggattgc t 261

<210> 750
<211> 150
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(150)

<223> n = A,T,C or G

<400> 750

aacgctgang	acatgacatc	caaagattac	tactttgact	cctacgcaca	ctttggnatc	60
cacgaggaga	tgctgaagga	cgaggtgcgc	accctcactt	accgcaactc	catgtttcat	120
aaccggcacc	tcttcaagga	caaggngnng				150

<210> 751

<211> 288

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(288)

<223> n = A,T,C or G

<400> 751

aaaacttttg	ttaagaaaaa	ctgccagttt	gtgcttttga	aatgtctgtt	ttgacatcat	60
agtctagtaa	aattttgaca	gtgcatatgt	actgttacta	aaagctttat	atgaaattat	120
taatgtgaag	nttttcattt	ataattcaag	gaaggatttc	ctgaaaaacat	ttcaagggat	180
ttatgtctac	atatttgtgt	gtgtgtgtgt	gtatatatat	gtaatatgca	tacacagatg	240
catatgtgta	tatataatga	aatttatgtt	gctggnattt	tgcatttt		288

<210> 752

<211> 248

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(248)

<223> n = A,T,C or G

<400> 752

ctggcactga	ggatttatatc	catataagaa	ttcaacagag	aaacggcagg	aagaccctta	60
ctactgtcca	agggatcgct	gatgattacg	ataaaaagaa	actagtgaag	gcgtttaaga	120
aaaagtttgc	ctgcaatggt	actgtaattg	agcatccgga	atatggagaa	gtaattcagc	180
tacagggnga	ccaacgcaag	aacatatgcc	agttcctcgt	agagattgga	ctggctaagg	240
acgatcag						248

<210> 753

<211> 346

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(346)

<223> n = A,T,C or G

<400> 753

ctgctagaaa	acagggaaga	tattagccaa	tatggaattg	ccaggttott	cactgaatat	60
tttaacagtg	tatgccaggg	aacacacatt	ctctttcgag	aattcagctt	cgtccaagcc	120
acccccaca	ataggggnatc	atttttacgg	gccttctgga	gatgcttccg	aactgtgggc	180
aaaaatggcg	atttgctgac	catgaaagaa	tatcactgtt	tgctgcaatt	actgtgtcct	240
gatttccgcg	tggaagctcac	tcagaaagca	gccaggattg	tgctcatgga	cgatgccatg	300
gactgcttga	tgnccttttc	agatttcctc	tttgccttcc	agatcc		346

<210> 754
 <211> 100
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(100)
 <223> n = A,T,C or G

<400> 754
 gtgccacagg cagccctggg anataggaag ctgggagcaa ggaaagggtc ttagtcactg 60
 cctcccgaag ntgcttgaaa gcactcggag aattgtgcag 100

<210> 755
 <211> 405
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(405)
 <223> n = A,T,C or G

<400> 755
 tgtgggcccc cttcccaaat ctctggagga tctgcagctt actcataaca agatcacaaa 60
 gctgggctct tttgaaggat tggtaaacct gaccttcac cactccagc acaatcggct 120
 gaaagaggat gctgtttcag ctgcttttaa aggtcttaaa tcaactgaat accttgactt 180
 gagcttcaat cagatagcca gactgccttc tggnotccct gtctctcttc taactctcta 240
 cttagacaac aataagatca gcaacatccc tgatgagtat ttcaagcgtt ttaatgcatt 300
 gcagnatctg cgtttatctc acaacgaact ggctgatatg ggaatacctg gaaattcttt 360
 caatgngnca tccctggntg agctggatct gtcctataac aagct 405

<210> 756
 <211> 306
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(306)
 <223> n = A,T,C or G

<400> 756
 ccttgggaaa ttacctggaa atgcgactga aatcttcctt cctgaggggt ctgggctctt 60
 ggaaatcaaa ccctctcagg ttgggtggct ggacgattct cctcacactt anaatgggac 120
 aaggggaacc aggaggcccc caaggggatc cctgggntcc acacgaactc ctctaccct 180
 cattgngtga cagcagccat gcctcctect ggggatcagg atctattacc tgtgcctgga 240
 gaggagggga ctctcttctt caccgcgtgg nctctggaca catactgtcc aattcccctg 300
 tggcag 306

<210> 757
 <211> 321
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
<222> (1)...(321)
<223> n = A,T,C or G

<400> 757
ctggaggagg gntccctggg aggtttttgt ggattccttc tgcagngact cccctgggtt 60
ctggntcttg ggacccagng tccaggcgca gnccttttagc acttctcagt gtagacgttg 120
acagggtctt tttcccgttt gaatcctgct gagtcccca atctcttgac ttgtcttggn 180
tacagncacc accagagctg ctncagntt tgacaaaagc agttgctgct gaagngatcg 240
ttttgaatcc tatcatagca ctggcaggtc ccggnaaatt cttacagtca gcaggcggac 300
ctcgtgtgag ttgaatattc c 321

<210> 758
<211> 278
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(278)
<223> n = A,T,C or G

<400> 758
cgctcggcaa gntctcccag gagaaagcca tggtcagttc gagcgccaag atcntgaagc 60
ccaatggcga gaagccggac gagttcgagt ccggcatctc ccaggctctt ntggagctgg 120
agatgaactc ggacctcaag gctcagctna gggagctgaa tattacggca gctaaggaaa 180
ttgaagttgg tgggtggtcg aaagctatca taatcttgn tcccgntcct caaacctgcc 240
cgggcggccg cttcgagccc tatagtgagg cgnattag 278

<210> 759
<211> 401
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(401)
<223> n = A,T,C or G

<400> 759
gcaaactgca aaccatggtg agaaattgac gacttcacac tatggacagc ttttccaag 60
atgtcaaaac aagactcctc atcatgataa ggctcttacc cccttttaat ttgtccttgc 120
ttatgcctgc ctctttcgct tggcaggatg atgctgtcat tagtatttca caagaagtag 180
cttcagaggg taacttaaca gagtatcaga tctatcttgc caatccaac gttttacata 240
aaataagaga tccttttagt caccagnga ctgacattag cagcatctt aacacagccg 300
ngtgttcaaa tgtacagngg nccttttcag agntggactt ctagactcac ctgttctcac 360
tccctgnttt aattcaaccc agccatgcaa tgccaaataa t 401

<210> 760
<211> 346
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(346)
<223> n = A,T,C or G

```

<400> 760
ccgaggtttg gatcatggga gaacagcaga aaggggttat tgagggaaacc tacactgttc      60
tagctgcacc ccatgccctt ctccagaggaa agcctggcat tgattagata ctgggccaga      120
ctaatactgg cagcagagcc agtgatagta acctgcctac cagaggagcc ttccactggg      180
ttggcaattt tgatctgggc cccggacatc tggcggatct cattaatgtt ggccgcttgg      240
cgcccgatta tgcagccaat taagtatttt ggaatggnga gttcatgggt ggtttgagta      300
gatgcatcca aacttgccca atagcctttc acctntggag agacct                      346

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<210> 761
<211> 256
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(256)
<223> n = A,T,C or G

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<400> 761
gagacagact gggatgatgac gctgaatctg cagaggtgct ggtgaccaat tcccctaaag      60
catctacttg tctcctcaaa ctgtgtaaaag tgccctctgt ctgccgcttt cctttaatta      120
atacttctgc ttgcttggaac atacagtgtc ggagttggnc ctgaaaagtg tgataagact      180
taggnnttta cacagnaaga aatgtaccag aactgctgct cagcttcctc acatacattt      240
gataggcaaa tctagc                      256

```

```

<210> 762
<211> 321
<212> DNA
<213> Homo sapien

```

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<220>
<221> misc_feature
<222> (1)...(321)
<223> n = A,T,C or G

```

```

<400> 762
tggaactctg antgatgctg gaagtagata cgaaaatgng aagaacaatg gaacagcaca      60
ctttctggag catatggcct tcaagggcac caagaagaga tcccagttag atctggaact      120
tgagattgaa aatatgggtg ctcatctcaa tgcctatacc tncagagagc agactgtata      180
ctatgccaaa gcattctcta aagacttgcc aagagctgta gaaattcttg ctgatataat      240
acaaaacagc acattgggag aagcagagat tgaacgtgag cgtggagtaa tccttagaga      300
gatgcaggaa gttgaaacca a                      321

```

```

<210> 763
<211> 348
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(348)
<223> n = A,T,C or G

```

```

<400> 763
tgagaaaaca taaagtaacc agcagatttc aatattaaaa agaagtgggt cntcctaaaa      60
aaggtnntag atcatagagt tgggattagg gtaggggata cctattaatc tggncctggaa      120
aaaaagngtg tggagaaggg gagntgtatt gntttctcac aagaggcaaa cttcagncaa      180
acaatgaaga gatagtaggn agggagatgt gtgntagacc aaagactttc tgattgctga      240

```

taataacaaa	tttagcagct	ntctacaagt	caattaaaaat	accattctct	gagacat	300
cagagaggag	ctaactaaca	cccacccagg	nggaaaaatc	attctaca		348

<210> 764

<211> 374

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(374)

<223> n = A,T,C or G

<400> 764

agcnaagaag	gaagctcctg	cccctcctaa	agctgaagcc	aaagcgaagg	ctttaaagnc	60
caagaaggca	gcgttgaaag	gtgtccacag	ccacaaaaag	agaagatcc	ncacgtcacc	120
caccttcng	cngccgaaga	cactgcgact	cggagacag	cccaaatac	ctcggaagag	180
cgctcccagg	agaaacangc	ttgnccacta	tgtatcatc	aagtttccgc	tgaccactga	240
gnctgccatg	aagaagatag	aagacaacaa	cacacttggt	ttcattgngg	atgttaaagc	300
caacaagcac	cagattaaac	aggctgngaa	gaagctgtat	gacattgatg	tggccaaggt	360
caacacctg	attc					374

<210> 765

<211> 288

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(288)

<223> n = A,T,C or G

<400> 765

aaatacaata	attctgttat	tgataaaatt	taaggcattt	tcattgcctt	ttgcagattt	60
actcataact	acctaacaag	gaaagaaggt	ataattattt	cagattggat	tattttattt	120
aaaattaaat	tcttccactaa	tttattctaa	gatgaattta	atagtccatc	aggaaattgg	180
nttttataaa	gcttatttta	tgggcataaa	atacaggaaa	aggtaataat	aatgccaata	240
ccgtctcttt	actttatgaa	gccaaatatt	tcctcagact	tggttttt		288

<210> 766

<211> 424

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(424)

<223> n = A,T,C or G

<400> 766

ttgtggttgt	gcctgagggc	tctgcttccg	acactcatga	acaggctatc	ttgcggttgc	60
aagtcaccaa	tggttgtgtc	cagcctctga	ctcaggccac	tgttaaacta	gaacatgcta	120
aatctgttgc	ttccagagcc	actgtcctcc	agaagacatc	cttcacccct	gtaggggatg	180
tttttgaact	aaatttcatg	aacgtcaaat	tttccagtgg	ttattatgac	ttccttgctc	240
aagttgaagg	tgacaaccgg	tatattgcaa	ataccgtaga	gctcagagtc	aagatctcca	300
ctgaagttgg	catcacaaat	gttgatcttt	ccaccgngga	taaggatcag	agcattgcac	360
ccaaaactac	ccgggtgaca	tacgcagcca	aagccaaggg	cacattcatc	gcagacagcc	420
acca						424

<210> 767
 <211> 302
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(302)
 <223> n = A,T,C or G

<400> 767
 ggcttttctca ataagcctca gcttttctaag atctaacaag atagccaccg agatccttat 60
 cgaaactcat tttaggcaaa tatgagtttt attgtccgtt tacttgtttc agagtttgta 120
 ttgtgattat caattaccac accatctccc atgaagaaa ggaacggtga agtactaagc 180
 gctagaggaa gcagccaagt cgnttagtgg aagcatgatt ggtgcccagt tagcctctgc 240
 aggatgtgga aacctccttc caggggaggt tcagtgaatt gtgtaggaga ggttgtctgt 300
 gg 302

<210> 768
 <211> 94
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(94)
 <223> n = A,T,C or G

<400> 768
 ctgatctaaa agaagttact gaggaagatt tgaataatca ctttaagtct ttgggaagca 60
 gnnatttgaa atnttgaggt gacagncttt taag 94

<210> 769
 <211> 69
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(69)
 <223> n = A,T,C or G

<400> 769
 ctgcaagacg actccaaccc aacaacaacc agatgngctn cagcccagcc ggncttcagt 60
 tccatattt 69

<210> 770
 <211> 222
 <212> DNA
 <213> Homo sapien

<400> 770
 ctgaacgcaa accagccact ttaattaagc taagccctta ctagaccaat gggacttaaa 60
 cccacaaaca cttagttaac agctaagcac cctaataaac tggttcaat ctacttctcc 120
 cgccgcccgg aaaaaaggcg ggagaagccc cggcaggttt gaagctgctt cttcgaattt 180
 gcaattcaat atgaaaatca cctcggagct ggtaaaaaa gg 222

<210> 771
 <211> 332
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(332)
 <223> n = A,T,C or G

<400> 771
 ctgctttccc tcctatggct cccctggaac aggagggaga gccaaagggg cggcccagcc 60
 tggacagcgc cgcctcctgc ctgggtgcac acacggcggg cctgagctcc agcatctgag 120
 tttgggggta tgagaaacag gggagcagaa ggagaagaaa actgcctgtg ctgcaacacg 180
 tttcctcatt tattttttct ttctttttct ttttttctt ttttgaggag agaggtccct 240
 gcaaggtccc ttcccgggca gnggagggat ggaaatgccg tcacagtagt agggactgga 300
 gcgtctacaa ggatggaggg gagctactca gg 332

<210> 772
 <211> 194
 <212> DNA
 <213> Homo sapien

<400> 772
 aaaagaaaga tcaattatat ccatgcttaa caggatcagc aggagcttta taaatgactt 60
 tacagagact aataagggat ttgatctttc tttttttgtt atcgaggctt ttgaaatgtg 120
 gaacttgtgt gttctgcttt atatgttata ttcaatatct tttcagatgc agtctatatt 180
 ttatgctgag tttt 194

<210> 773
 <211> 272
 <212> DNA
 <213> Homo sapien

<400> 773
 ccaattgatt tgatggtaag ggagggatcg ttgacctcgt ctgttatgta aaggatgcgt 60
 agggatggga gggcgatgag gactaggatg atggcgggca ggatagttca gacggtttct 120
 atttcctgag cgtctgagat gttagtatta gttagttttg ttgtgagtgt taggaaaagg 180
 gcatacagga ctagggaagca gataaggaaa atgattatga gggcgtgatc atgaaagggtg 240
 ataagctctt ctatgatagg ggaagtagcg tc 272

<210> 774
 <211> 314
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(314)
 <223> n = A,T,C or G

<400> 774
 gtgtcttgta cagttagnat tattagcagc cctctgagat gncgnatcta tcggaaggat 60
 ttcaaacacc aattgcttta cctgaacaaa tggnncttac cctttgaaca gcanagngac 120
 cacgnagaag gaaggaaaag ggnaaaatcg cttnagttaa actgaaatta aatgaacaat 180
 aaggcaacta tataagtnac ttctagnagc attgcctgag anacaaatta ttgtttgata 240
 atttncattg tgaatagnaa tccaatagat catattgctt actttgntct ttttatacta 300
 tagaataata tttt 314

<210> 775
<211> 207
<212> DNA
<213> Homo sapien

<400> 775
cctgacagag ctcagctcac actgggaagt gtggatgcag ggtgcccttc cctaccccag 60
tgagaaggaa gattccttac ccatcttgct tccccccag ggaagatcat catgcacgac 120
ccatttgcca tgcggccctt ttttggctac aacttcgggc actacctgga aactggctg 180
agcatggaag ggcgcaaggg ggcccag 207

<210> 776
<211> 196
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(196)
<223> n = A,T,C or G

<400> 776
gtgaacggag gcactgtggc cgagaagctg gactggcccc gcgagaggct tgagcagcag 60
gtacntgtga accaagtgtt tgggcaggat gagatgacn acgtcatcgg ggtgaccaag 120
ggcaaagnct acaaagggnn caccagtcgt tggcacacca agaagctgcc ccgcaagacc 180
caccaggac ctcggc 196

<210> 777
<211> 325
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(325)
<223> n = A,T,C or G

<400> 777
aaagttgaac taagattcta tcttggacaa ccagctatca ccaggctcgg taggnttgtc 60
gcctctacct ataaatcttc cactatctt gctacataga cgggtgtgct ctttagctg 120
ttcttaggta gctcgtctgg ttccgggggt cttagctttg gctctccttg caaagttatt 180
tctagttaat tcattatgca gaaggtatag gggtagncc ttgctatatt atgcttggnt 240
ataatttttc atctttccct tgcggtacta tatctattgc gccaggtttc aatttctatc 300
gcctatactt tatttgggta aatgg 325

<210> 778
<211> 421
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(421)
<223> n = A,T,C or G

<400> 778
ccaaaagaag taagacagct tgctgaagat ttctgaaag actatattca tataaacatt 60

```

ggtgcaacttg aactgagtg aaaccacaac attcttcaga ttgtggatgt gtgtcatgac 120
gtagaaaagg atgaaaaact tattcgncta atggaagaga tcatgagtga gaaggagaat 180
aaaaccattg nttttgtgga aacccaaaga agatgtgatg agcttacnca nanaaatgag 240
gagagatggg tggcctgcca tgggtatcca tggtgacaan agtcaacaag agcgtgactg 300
ggttctaaat gaattcaaac atggaaaagc tcctattctg attgctacag atgtggcctc 360
cagagngcta gatgtggaag atngaaatt tgtcatcaat tatgactacc ctaactcctc 420
a 421

```

```

<210> 779
<211> 330
<212> DNA
<213> Homo sapien

```

```

<400> 779
ctgaactttc cgcttacgct gccagagct gccaggtgta gactgagaat tctagttttg 60
tttcttcctt ggggttgat ctgcagcctt ttctccctgg gactccctgt ctgctgcaa 120
tgagattgaa gaactggaat gatgacacag ctctctctt cttattttct ttgctggcct 180
ctccggtgtc tgggagcggg aggaggttg ggctagagaa gggatgatga ctggggccat 240
ttctcttcca gagctgtgag atgcctcgag tggagctgta ggaactggta atggcattgc 300
ggctggagct agggatgcca ctgctgaag 330

```

```

<210> 780
<211> 279
<212> DNA
<213> Homo sapien

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```

<400> 780
gagaggtaga gtttttttct tgatagtggg tcaactggata agtggcgttg gcttgccatg 60
attgtgaggg gtaggagtc ggtagttagt attaggaggg ggggtgtag ggggtcggag 120
gaaaagggtt ggggaacagc aaatagggtt ttgttgattt ggtaaaaaa tagtagaggg 180
atgatgctaa taattaggct gtgggtggtt gtgttgattc aaattatgtg ttttttggaa 240
agtcatgtca gtggtagtaa tataattgtt gggacgatt 279

```

```

<210> 781
<211> 323
<212> DNA
<213> Homo sapien

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```

<400> 781
ttgatcttct gcaggaagg gcagcttttc catatcagct caaccacgcc gccagtccat 60
tcttaaggaa ctgccgacta ggactgatga tgcattttag ctttgagctt ttgggggtta 120
ttctaccaac aaacagtcca ttggaaagaa aacagtcctt ggaattaaca gattagaatg 180
ttcacactgg ttaatctttt ttaacaatg agcatgaagg tagcagaagc tgggtgtgtt 240
ccagatggtt cttctaacca aactaatttt tcaactgttg caagcgaggc aagggttgca 300
ctggaccaa ggctgaggct tgg 323

```

```

<210> 782
<211> 264
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(264)
<223> n = A,T,C or G

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```

<400> 782
ttctagcttt gccctcactc cccggaaaaa ctgacactga cacagngct ctttccttgc 60

```


ccctttagnt	ggtacctcag	tggggaggct	tccttaccaa	gaatgagttc	ctgaaaccca	120
gggccagaga	caaggacaac	ttaggggaag	acgggggttt	cggtggagcc	aggggcaa	180
cttaatggga	ccagnngggg	ataccccaga	gcccattggc	tgactgcaca	gcctgcctgg	240
aggatgggtg	cgcagttctg	cnc				264

<210> 783

<211> 159

<212> DNA

<213> Homo sapien

<400> 783

ctgtgtgaag	gagacagtgg	tgcaggtcct	cctgtggact	agacgtccca	gtcttgcctt	60
tcccttgata	atgcagtaag	ggacccccat	tttacgacac	agggcaggca	agaagacaac	120
cagctcgatg	ggatccacgt	cgtgtgcaat	caccaccag			159

<210> 784

<211> 128

<212> DNA

<213> Homo sapien

<400> 784

ctcgccctc	ttacaccatt	ttgtttgatt	gtctagtccc	tgtttctttt	tctttcta	60
ccttattcat	ttaagcaaaa	ccatacatta	tcttttccag	tcctttcttg	tattcttact	120
gttttttt						128

<210> 785

<211> 346

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(346)

<223> n = A,T,C or G

<400> 785

ctgggetgat	gctggaactc	gtagaagtac	acagggggccc	gggaacactg	aaaatgtgct	60
acttggagtg	cagggatcac	aaacatggag	tccgccatca	tctcctggaa	ctgcgcttgg	120
agggctctgg	gatccccatt	gnccccaatg	tactcctccc	tcagcaggtc	accaaagtga	180
ggaggcaaca	tcagcagcgt	taacattttc	tgcagagcag	cctgggaggc	ctctctgtcc	240
atttccttct	gggtatcata	gatcctcatg	acottgggga	tgagccagcc	gaattcattg	300
ttgttgacac	caacaatgct	agnnagcagn	ctgaaagtcg	gcagag		346

<210> 786

<211> 118

<212> DNA

<213> Homo sapien

<400> 786

ctgcactgat	ctgtggggag	agttttacag	acttttcatt	ccagcctcct	ccattgacag	60
tgaggctctc	attcaatcct	gaagaaacct	gaagtgtaga	atctcctttt	ccagattt	118

<210> 787

<211> 257

<212> DNA

<213> Homo sapien

<400> 787

cactcattca	tcgacctccc	caccccatcc	aacatctccg	catgatgaaa	cttcgggtca	60
ctccttggcg	cctgcctgat	cctccaaatc	accacaggac	tattcctagc	catgcactac	120
tcaccagacg	cctcaaccgc	cttttcatca	atcgcccaca	tcactcgaga	cgtaaattat	180
ggctgaatca	tccgctacct	tcacgccaat	ggcgccctcaa	tattctttat	ctgcctcttc	240
ctacacatcg	ggcgagg					257

<210> 788
 <211> 155
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(155)
 <223> n = A,T,C or G

<400> 788	
cgcaagagcc	tatgnatgtg gnatccagaa ctcngtgngc gcaanccgca gagaccaggt 60
caccctggnt	gtncctctatg ggccggacac ccccatcatt tccccccag actcgtotta 120
cctttcngga	gcgaacctca acctctctg ccaat 155

<210> 789
 <211> 382
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(382)
 <223> n = A,T,C or G

<400> 789	
cctaagtaaa	tgaagagctg taccatatcc atgtattgga agacaacatt gtaaagatga 60
catggtttac	cagattaatc tataaaattca atacaaatcc aatcaaaatt tcaatgctct 120
tggttttggt	tgatttataa attgttggtc taattctaga agtaatatgg aggaacagtt 180
ggctaagaat	agccaagaca ctncaaaggaa gaacaatttt gtgnggatac tggagacaga 240
ggtgaaattg	gttacaatta tgacaaaatg tggaggcatc ttggttttta tcagaccttt 300
tcctaaagtt	gcaataatca ggactgtact gtactgctac aagattagac aaattgatgt 360
cagtcagaat	agaaatcatc aa 382

<210> 790
 <211> 273
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(273)
 <223> n = A,T,C or G

<400> 790	
ggatccgcta	cacagtttct gccagtcctt gagttgatgc cttttcggct aactcgccag 60
nttatcaatc	tgatgttacc aatgaaagaa acggtnccta tgtacagnat catggtacac 120
gcactccggn	ccttcgctc agaccctggc ctgctcacca acaccatgga tgtgtttgtc 180
aagnagccct	cctttgattg gaaaaatttt gaacanaaaa tgctgaaaaa aggagggtca 240
tggattcaag	aaataaatgt tgctgaaaaa aat 273

<210> 791

<211> 344
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(344)
 <223> n = A,T,C or G

<400> 791
 aaagaatcag caaaatttca aataaaaaat tatgaaaata ttatcctcat tagttcattt 60
 agtcccataa aattaattat tttctctgct tgatcttggg ggacagtttc atgaagctgt 120
 cagtttagttc attaaagttt tggaaattct cagacagtgc agtggatatca gaaacttgta 180
 ttcaagagta caggtcagag ccttcttttc ttttctttt gagatggagt cttgctctgt 240
 tgccagactg gagtgcagtg gtgcgatctg ggctcactgc aatctccacc tcccgggttc 300
 aagcgattct cctgcctcag cctcccgagt aactgggact acag 344

<210> 792
 <211> 227
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(227)
 <223> n = A,T,C or G

<400> 792
 gacaaacctg aaattgaaga tgttggttct gatgaggaag aagaaaagaa ggatggtgac 60
 aagaagaaga agaagattaa ggaaaagtac atcgatnaag aagagctcaa caaaacaaag 120
 cccatctgga ccagaaatcc cgacgatatt actaatgagg agtacggaga attctataag 180
 agcttgacca atgactggga agatcacttg gcagngaagc atttttc 227

<210> 793
 <211> 328
 <212> DNA
 <213> Homo sapien

<400> 793
 aaacaagtca tttttcttga tcgttggtga aggtttggag ccttagaggt atgtcagaaa 60
 aaatatgttg gtattctccc ttgggtaggg ggaaatgacc tttttacaag agagtgaat 120
 ttaggtcagg gaaaagacca agggccagca ttgctacttt tgtgtgtgtg tgtgggtttt 180
 gttttgtttt tttggttggc cggttggttt cgttgttgtt aacaaaggaa tgagaatatg 240
 taataacttaa ataaacatga ccacgaagaa tgctgttctg atttactaga gaatgttccc 300
 aatttgaatt tagggtgatt ttacctgc 328

<210> 794
 <211> 290
 <212> DNA
 <213> Homo sapien

<400> 794
 ccagcgagca catgaagcgg ttcttcatga acttttgtgt tgggcaggat ccgggctcag 60
 acgccgcctt ccacttcaat ccgcggtttg acggctggga caaggtgggtc ttcaacacgt 120
 tgcagggcgg gaagtggggc agcgaggaga ggaagaggag catgcccttc aaaaaggggtg 180
 ccgccttga gctggtcttc atagtcctgg ctgagcacta caaggtgggtg gtaaatggaa 240
 atcccttcta tgagtacggg caccggcttc ccctacagat gggtcaccac 290

<210> 795
 <211> 343
 <212> DNA
 <213> Homo sapien

<400> 795
 aaaatcaaag aaatccttgt ttgaaaatt ggatcttaat ctcaaaattg tagaacttgg 60
 ctgagaccat tgctttcatt ttgaaaatga acttcaactc cagaaagacc agtgtgtgct 120
 ctgccaaata aattttctgag tcacagtctc actaggaatg tgcaaatcaa agcatatggt 180
 ggtgtaaatt cttttgaagt ccttgccaag ataatcaatg gcatttacct ttgctttttt 240
 ctttaataaa aattccacca ttttcacttt tcttcgactc acagcaagta acagtggctg 300
 atattcattc ttgctgcatt cttcaatatt tgtaccatgt gaa 343

<210> 796
 <211> 354
 <212> DNA
 <213> Homo sapien

<400> 796
 tggcggggcg ctgaataagc ttccaaaatg atgcccacac cagttattct attgaaagag 60
 gggactgata gctcccaagg catccccag cttgtgagta acatcagtgc ctgccagggtg 120
 attgctgagg ctgtaagaac taccctgggt ccccgaggca tggacaagct tattgtagat 180
 ggcagaggca aagcaacaat ttctaattgat ggggccacaa ttctgaaact tcttgatggt 240
 gtccatcctg cagcaaagac tttggtagac attgccaaat cccaagatgc tgagggtgggt 300
 gatggcacca cctcagtgac cttgctgggt gcagagtttc tgaagcagac ctgc 354

<210> 797
 <211> 309
 <212> DNA
 <213> Homo sapien

<400> 797
 ctgtgccgct tgccctgagcc catggatgct ttctcaatcc taggctgggt actgtgtaag 60
 cgttttgagg tacggggcct tgagcgggtg ggagctgtgt gttgaagtac agagggagggt 120
 tgggtgggt cagagccgag ttaagagatt ttctttgttg ctggaccct tcttgaagggt 180
 agacgtcccc caccgggaga gacgtcgcgc tgtggcctga agtggcgcaa gcttgctttg 240
 taaatatctg tgggtccgat gtagtgccca gaacgtttgt gcgaggcagc tctgcgcccc 300
 ggttccagc 309

<210> 798
 <211> 315
 <212> DNA
 <213> Homo sapien

<400> 798
 ccaccagcat tgacgttctt gccatccaga agagctgaca gtgtcagttt aatacctggc 60
 tttagagtct gagtgtatcc taaacctatc aggtctggagt tgttcacttt agccgagaag 120
 caggcgctcag ggtcaatctg atacttggt gctattccga agcgcgtgtt actgtttcct 180
 gctgtccagg caagattgac agcgggtctc aacttcttgt tcactttctg gtaaatggag 240
 ccgccaact ctgtcccgtc attcacatta gtgtgaagct ggaattcatc agtctttag 300
 ccaactgcaa agttg 315

<210> 799
 <211> 157
 <212> DNA
 <213> Homo sapien

<400> 799

ctgtgatttc	ctccatagtt	ggcttctggg	tcaggccata	ggcaatattt	tcttgaagac	60
ttcttccaaa	tacctgtggc	tcttgtocca	ctgcagccac	ctgcctgtgc	aggtagcgg	120
gctcatattg	gggaaggggc	ttcccatcca	acagcag			157

<210> 800
 <211> 357
 <212> DNA
 <213> Homo sapien

<400> 800						
aaactcagtg	aacccaaacc	tatttttttc	aatctgaata	ttgctgcagc	aaaaccaact	60
ccaccaaaaa	gccgggtaac	attaacaaaa	gaattccctg	tatcatctgg	atctcaacat	120
cggaaaaaag	aagcggatag	tgtttatgga	gaatgggttc	ctgtcgagaa	aaatggtgaa	180
gaaaacaaag	atgatgataa	tgttttcagc	agcaatttgc	cctcagagcc	tgtggacatc	240
tctacagcaa	tgagtgaacg	ggcacttgct	cagaaaagac	tcagtgaagaa	tgcatattgat	300
cttgaagcca	tgagcatggt	aaatagagct	caggaaagga	ttgatgcctg	ggctcag	357

<210> 801
 <211> 359
 <212> DNA
 <213> Homo sapien

<400> 801						
cctagggggc	atatcaaggg	tttaatagac	tgggggaatg	ggcaacagaa	ctggctacct	60
tagaggctct	ggaatgcccc	ccaccoatcc	acccaccaat	ggaaaggaaag	tcaggcatcg	120
cctaaaaagg	gtggtcccta	tctagcccca	agtctggagc	agaaagggca	ggtccattct	180
ggcccaagtg	acattgttag	atcctgtccc	ctccccaat	cactgctgct	tgccaggggtg	240
cctcttcaca	gttcccatgt	ggcagcagta	gtggcagagg	cagaagtgga	cttattgtag	300
attgcagtac	agatacatgg	acacaatcat	ggcagccagc	tcgaggcccc	caattccag	359

<210> 802
 <211> 207
 <212> DNA
 <213> Homo sapien

<400> 802						
ccaggctcgg	gcaccacctc	aatcacatcc	atgatcaaga	tccgccctcg	gcacgtgacc	60
tcctcccctc	gcatgaggca	ggtcccggcg	gccacgtagc	ctttgaggcc	cgacacggtc	120
tcctcactgc	gcagagacac	tgtcttcatg	caggtcacat	gctcccactc	ctgcagctcg	180
atcctggcat	tggaatagc	ctccacg				207

<210> 803
 <211> 311
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(311)
 <223> n = A,T,C or G

<400> 803						
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attacactga	attgtaaaaa	ccattcgntt	ttgnttacia	ttgccaaaaa	tctcaaaagg	120
ccctgtattt	atgtaattct	ttgaaattat	tattttat	tgatttctca	gttattgact	180
ggctgggngt	gacttagtac	ataagtactc	aatattatna	aaacctcaaa	taattgactt	240
gattttacac	aacatccttc	ccttttctac	aagntaattt	ttttacaaat	catttggggtt	300
atctcctaaa	t					311

<210> 804
 <211> 202
 <212> DNA
 <213> Homo sapien

<400> 804
 ctgttcggat ttaacttcat cttctggctt gccgggattg ctgtccttgc cattggacta 60
 tggctccgat tcgactctca gaccaagagc atcttcgagc aagaaactaa taataataat 120
 tccagcttct acacaggagt ctatattctg atcggagccg gcgccctcat gatgctggtg 180
 ggcttcctgg gctgctgcgg gg 202

<210> 805
 <211> 238
 <212> DNA
 <213> Homo sapien

<400> 805
 ccaaccagtc tggctggagt gatgcattcc tggcccagca cacgatgctt accctggatc 60
 ccaacgtcac cggtgtcttc ctgggaccct acccctttgg catcgatcct atttggagcc 120
 tggctgccaa ccacttgagc ttcctcaact ccttcaagat gaagatgtcc gtcacacctg 180
 gcgtcgtgca catggccttt ggggtggtcc tcggagtctt caaccacgtg cacttttg 238

<210> 806
 <211> 325
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(325)
 <223> n = A,T,C or G

<400> 806
 cctgaggctt gcggaagggt ggaggaggca gacgccctgc gtggcccatg gtcggggcgt 60
 ccacgccgag gccggcaaca aacgacagta tctcggattc cttttttttt taatttttta 120
 tactttggng ttacacttcg ngctctgaat actgaataac catgaatgac tgaatagttt 180
 agtccagatt ttacagagg atacatctat ttttatcatt atttggggtt tgaaaaattt 240
 ttttttacac cttctaattt ctttatttct caaagcagat aattcttctg ngtgaaaatg 300
 ttttcttttt ttaatttaag gttaa 325

<210> 807
 <211> 289
 <212> DNA
 <213> Homo sapien

<400> 807
 cctaaaggga actgtcttct gtcgagaagt aaaggaaact tcatgaagga tgtagaagct 60
 tagctgcctc agagaagaga gaacctgaag atctgaggca agctggacag gagaggtaga 120
 tatttggtga tggaagaatt caagtttata atcaattccc acttagcacc tactgtgtgc 180
 taggaacttg aatgtgtatg ttgacaagt cctgcttggc ctgatgggtg ggagaaggaa 240
 cctgagcctg gctgagatgg ctaggcggag ggctttgaag tccaagcag 289

<210> 808
 <211> 376
 <212> DNA
 <213> Homo sapien

<400> 808
 aaacttaatt aaagagcttg acaagctctg catattcatg tgtcataagc agtatgtgac 60
 aaaaaaaact gtgcagtatg taccacctca cgaaatttag tttggcaggg aaaacaagat 120
 gcacatgtta ttataaatta gaaaatggaa gagaagtaga aataaatcca tgagtattat 180
 atataagtaa cagaacaaaa acaacaggat aatgtatccc ccccaaaggc ccagtagaga 240
 ccatacaagc tcattctggg ggtagtcaag gagggagtgg agggagaaaa agaacgcaga 300
 ccttcaacca ctaatgaaag aactgaaaca tctgtatgta gaaaaaagg taaaatcaact 360
 cactatcatc ttcagc 376

<210> 809
 <211> 243
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(243)
 <223> n = A,T,C or G

<400> 809
 ccattctatt ttcaaagtno agagctacat aacacagttt ctctctgatg tcccggacaa 60
 tctcacgctc agcagtagta acgaaggaat agccacgctc agtcaggatc ttcattgagg 120
 agtcagtgag atctcggcca gccagatcca gacgcagatg gncatggggc aagnnatagc 180
 ontcatagat ggngacantg tgggtgacac catctccaga gtccagcacg atgccagttg 240
 tgc 243

<210> 810
 <211> 274
 <212> DNA
 <213> Homo sapien

<400> 810
 aaaaaacacg tttgttatta ccaaaaagag acgtcttttag gtaaaaataa taaaaacccc 60
 atgctgcatt gataatgcag atagttctat ttatctggtc aacgggcaaa aagcaagcac 120
 ttttaggtctt cagctccaat cttttgttca tttcttattg ctggaatttc atatttcttc 180
 ttgttgatg actaaaccgg atgatggtag agatggtaag ccggcattta ctcagccccc 240
 ccctgctcag cctcggggagc ggacgaattc tcag 274

<210> 811
 <211> 205
 <212> DNA
 <213> Homo sapien

<400> 811
 ctggtggaga tcatcaaggt gctgggaaca ccaacccggg aacaaatccg agagatgaac 60
 cccaactaca cggagttcaa gttccctcag attaaagctc acccctggac aaaggtgttc 120
 aaatctcgaa cgccgccaga ggccatcgcg ctctgctcta gcctgctgga gtacacccca 180
 tcctcaaggc tctccccact agagg 205

<210> 812
 <211> 199
 <212> DNA
 <213> Homo sapien

<400> 812
 aaatattgct gctgctttgt agatgatgag aagaaatgtt aaagtgttt ctaaaaggaa 60
 attttttcac ctttgaggga gaatatatta gagttgtggg taatttttca cagccaccta 120
 tgtacatact aattacccat tggatactta tatctaaaag tctcatgctg aagtatatgt 180

tttgggaaag aatgatttt

199

<210> 813

<211> 334

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(334)

<223> n = A,T,C or G

<400> 813

cctcaccgcc	gatgcaagga	tagtcatcaa	cagggcccg	gtggagtgcc	agagccaccg	60
gotgactgtg	gaggaccgg	tactgtgga	gtacatcacc	cgctacatcg	ccagtctgaa	120
gcagcgttat	acgcagagca	atgggcgag	gccgtttggc	atctctgccc	tcacgtggg	180
tttcgacttt	gatggcactc	ctaggctcta	tcagactgac	ccctcgggca	cataccatgc	240
ctggaaggcc	aatgccatag	gccgggggtg	caagtcagtg	cgtgagttcc	tggaagaaga	300
ctatactgac	gaagccattg	ctctgcgacc	tgcc			334

<210> 814

<211> 358

<212> DNA

<213> Homo sapien

<400> 814

ctgaagcttg	gaacttcttg	acaagaaaag	gcctggttcc	tggtggcctc	tatgaatccc	60
atgtagggtg	cagaccgtac	tccatccctc	cctgtgagca	ccacgtcaac	ggctcccggc	120
ccccatgcac	gggggagggg	gataccccc	agtgtagcaa	gatctgtgag	cctggctaca	180
gcccgcacta	caaacaggac	aagcactacg	gatacaattc	ctacagcgtc	tccaatagcg	240
agaaggacat	catggccgag	atctacaaaa	acggccccgt	ggaggagct	ttctctgtgt	300
attcggactt	cctgctctac	aagtcaggag	tgtaccaaca	cgtcaccgga	gagatgat	358

<210> 815

<211> 203

<212> DNA

<213> Homo sapien

<400> 815

ctggaagccg	gactcagcca	gggtgcgcta	ctaccagagc	ctgcaggctc	atctcaaggt	60
ggacgtgtac	agacgctccc	acaagcctct	gccaagggg	accatgatgg	agacgctgtc	120
ccggtacaag	ttctacctgg	ccttcgagaa	ctccttgac	cccgactaca	tcaccgagaa	180
gctgtggagg	aacgccctgg	agg				203

<210> 816

<211> 92

<212> DNA

<213> Homo sapien

<400> 816

cggccgcaga	agcgagatga	cgaagggaac	gtcatcgttt	ggaaagcgtc	gcaataagac	60
gcacacgttg	tgccgcccgt	gtggctctaa	gg			92

<210> 817

<211> 367

<212> DNA

<213> Homo sapien

<400> 817
 ttggaggact atttgaattt tgcaaaactat ctcttgtggg tttttacacc actaatactt 60
 ttaatacttc cttactttac tatcttttctt ctctacctta ctattatttt cttacacatt 120
 tataagagaa agaatgtatt gaaagaagcc tactctcata atttcatggga tggtgcaagg 180
 aaaacagtgg caactctgtg ggatggacat gcagccggtt ggcatgggta tgaagtccat 240
 ggaatggaaa aaataccaga agatggacca gcacttataa ttttttatca tggagctatt 300
 cctatagatt tttactattt catggcctaaa atatttatac acaaaggcag aacttgccga 360
 gtagtag 367

<210> 818
 <211> 381
 <212> DNA
 <213> Homo sapien

<400> 818
 aaataaaagt attacgtaac tttgaaattt gtataaaatt aaaagatagt aaaaacaact 60
 attctaacag aattcaaaac ctgttatgct tcagtggaga gattattcaa gataagtccg 120
 tgggaaattg ggagtacatt tctactggca aagttagtga taactatgca cttctgacaa 180
 aatgtgaaat ggggggtatg ggcgtgtcat atcatcatgg tgcagatacg tggatgtgtg 240
 cttccaaaca atggcaacct aactgactgc tgggaaccata caaaatacct gaaactactc 300
 agaaagaagg tgaaaattgc atgcaaaaat tatttgaaaa atattgagct aacacaacat 360
 gaatttgga ttataagtga g 381

<210> 819
 <211> 109
 <212> DNA
 <213> Homo sapien

<400> 819
 ccatggccgc ttccagacca tggaggagaa gaaagcattc atgggaccac tgaagaaaga 60
 ccgaattgca aaggaagaag gagcttaatg ccaggaacag attttgca 109

<210> 820
 <211> 309
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(309)
 <223> n = A,T,C or G

<400> 820
 ctggaaaaac ctttcagcga accattttcag ctccaggacac gttagcgtat gccacagctt 60
 tgttgaatga aaaagagcaa tcaggaagca gtaatgggtc ggagagtagn cctgccaatg 120
 agaacggaga cagncatcta cagcagggtt cagaatctcc catnatgatt ggtgagttga 180
 gaagngacct tgatgatgtt gatccctaga ggaacatgcc cagcctgaga ggagncaaga 240
 cacaatactg gatgctcagc accttctttg gaatcagaat ctccaaccct ntggaagagc 300
 ctgnagatt 309

<210> 821
 <211> 236
 <212> DNA
 <213> Homo sapien

<400> 821
 catccgcttc ctgaatgctg agaatgcaca gaaattcaaa acaaagtttg aagaatgcag 60
 gaaagagatc gaagagagag aaaagaaagc aggatcaggc aaaaatgatc atgccgaaaa 120

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agtggcggaa aagctagaag ctctctcggt gaaggaggag accaaggagg atgctgagga    180
gaagcaataa atcgctcttat tttattttct tttcctctct ttcctttcct tttttt    236

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<210> 822
<211> 388
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(388)
<223> n = A,T,C or G

```

```

<400> 822
gcgaggcaag atggagttag tgcaggctct gaaacgcggg ctgcagcaga tcaccggcca    60
cggcggctct cgaggctatc tacgggtttt tttcaggaca aatgatgcga aggttgntac    120
attagtgggg gaagacaaat atggaaacaa atactatgaa gacaacaagc aatttttttg    180
ccgtcaccga tgggtttgat atactactga aatgaatggc aaaaacacat tctgggatgt    240
ggatggaagc atggtgcctc ctgaatggca tcgttggcct cacagtatga ctgatgatcc    300
tccaacaaca aaaccactta ctgctcgtaa attcatttgg acgaaccata aattcaacgn    360
gactggcacc ccagaacaat atgtacct                                388

```

```

<210> 823
<211> 353
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(353)
<223> n = A,T,C or G

```

```

<400> 823
aaaagtttgg atctttttct cagcagggtat cagttgtaaa taatgaatta ggggccaaaa    60
tgcaaaacga aaaatgaagc agctacatgt agttagtaat ttctagtttg aactgtaatt    120
gaatatttggt gcttcatatg tattatttta tattgtactt ttttcattat tgatggnttg    180
gactttaata agagaaattc catagttttt aatatcccag aagtgaagaca atttgaacag    240
tgtattctag aaaacaatac actaactgaa cagaagtgaa tgcttatata tattatnata    300
gcottaaaacc tttttcctct aatgccttaa ctgtcaaata attataacct ttt        353

```

```

<210> 824
<211> 264
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(264)
<223> n = A,T,C or G

```

```

<400> 824
ctgggtgcag gcgggctgag tccgaaaaga gagtcagcaa agggagatgg ggtggggccg    60
ttttatagga ttagggaagg taatggaaaa ttacagtcaa agggggtttg ttctctggtg    120
ggcaggtgtg gatctcacia agtacactct caagggtggg gagaattaca aaggaccttc    180
ttaagngtgg gggagattac aaagtacatt tatcagttag ggngngncag gaacaaatca    240
caatgttgna atgtcatcag ttaa                                264

```

```

<210> 825

```

<211> 361
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(361)
 <223> n = A,T,C or G

<400> 825
 aaaatccagt ttgttgtaa caaacctac tgctgggtgg ttttgaatat attactttta 60
 ggcattgatct cccaatgtg tttttactcc ttttcggct tctaggacag aggtatgtag 120
 tcaaagaatc ctatgggtga tctgaattgg gtttcagcta ctgtacctgg tccttgtgaa 180
 ttaaaaaaat aaagtcacaa aaaccatatn acaaaacaaa ttaaaataaa tagacaaaat 240
 gaagctgtct ccagaccttc tgcattgaca cacaggtttg aagtcaacca aagcactcat 300
 gctaattctgg atgggaacac tagggagaca gaaacccag tatgaaacca tgtacttgag 360
 c 361

<210> 826
 <211> 195
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(195)
 <223> n = A,T,C or G

<400> 826
 cccagaagn gacgcagccc tctatnggcc cnaatcttct tcantcgtc caggctctca 60
 cggagcttgt tgtccagacc attggctagg acctggctgt attttccatc ctttacatcc 120
 ttctgtctgt tcaagaacca gtctgggatc ttgtactggc gnggattctg cataatgng 180
 atcacacgtt ccacc 195

<210> 827
 <211> 227
 <212> DNA
 <213> Homo sapien

<400> 827
 caacggctct tcacagacca cctccttttc taaggaaaat ggctggatat acgtgatgag 60
 tgatacatat ttgtattcag gttttgtctc taaagtagca cttcttacca cagagatcaa 120
 ggacttgggt aatattatgc ttttttcctt caatggatta attttcttaa tataaaaaca 180
 gatgaatacc aggctaagca ctagaaagag tagtaaagca gcaacaa 227

<210> 828
 <211> 242
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(242)
 <223> n = A,T,C or G

<400> 828
 atgtccgggg agtcagccag gagcttgggg aagggaagcg cgccccggg gccggtcccg 60
 gaggnctgat ccgcatctac agcatgaggt tctgcccgtt tgctgagagg acgcgtctag 120

237

tcttgaaggc	caagggaatc	aggcatgaag	tcatcaatat	caacctgaaa	aataagcctg	180
agtggttcctt	taagaaaaat	ccctttggtc	tgnggccagt	tntggaaaac	agtcagggtc	240
ag						242

<210> 829

<211> 374

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(374)

<223> n = A,T,C or G

<400> 829

gaggtcctga	aaaggaatac	acttccatat	catgccatct	cttacctgg	cattccttgc	60
ctatgcatgt	gcatggcttg	ccctggttta	gcttggaac	tgattgaaag	tcagagagat	120
cactggcttt	gagacttgct	tgggggactt	gggtagcgtc	agaggagtct	tccttcttac	180
tctctgatgg	gagccttgga	acagaagttc	tcaaaggctc	aacgactgcc	cctgcgtgat	240
tagcatcgag	agaagtagag	ctttctcctg	cactgaactc	tttaggggat	gaaattccca	300
gccactgct	gccatcaggt	gagtcagtct	ggcttttgng	cttgagttga	ctgctggaag	360
aagacgctat	tgta					374

<210> 830

<211> 325

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(325)

<223> n = A,T,C or G

<400> 830

gttcaaaagca	gaaaaatcctg	agcctctagt	gtttgggtgtg	aagtacaatg	caagtctctt	60
tgccaagttc	acgcttattg	tgacagatgt	gaatgaagca	cctcaattct	cccaacacgt	120
attccaagcg	aaagtcagt	aggatgtagc	tataggcact	aaagtgggca	atgtgactgc	180
caaggatcca	gaaggtcttg	acataagtta	ttcactgagg	ggagacacaa	gaggttggnt	240
taaaattgac	cacgtgactg	gtgagatctt	tagtgtggct	ccattggaca	gagaagccgg	300
aagtcacat	cnggtacaag	tggtg				325

<210> 831

<211> 85

<212> DNA

<213> Homo sapien

<400> 831

tggtaccggg	ccccccccct	gagcgatgga	gcgtgggtag	ggaggggtcca	cagtgtccac	60
tcgccgtgtg	cgaagggtga	ctcgg				85

<210> 832

<211> 202

<212> DNA

<213> Homo sapien

<400> 832

aggcgagag	gatcatgtcc	gggaactgcg	gggtagtagc	gatctgggtt	acccagccgt	60
tgtggccctt	gaggggtgcca	cgaagggtca	tctgctcagt	catggcggcg	gcgagagcgt	120

gtgtcgctgc agcgacgagg atggcactgg atggcttaga gaaactagca ccacaacctc 180
tcctgccgtc gacgcgcccg cg 202

<210> 833
<211> 503
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(503)
<223> n = A,T,C or G

<400> 833
ccggctggctc ctgcatcgcc atctgctggc cgcgcggcac ggccgggttc tggagccagc 60
aggagtcgga ggctgcaggg cttgaaggcc tcttcaccgt gccctccagg gaggctagct 120
gccgaagtat tcctgctgga acttctggaa gtcttcctcg gtgaacacgg tgccctcagc 180
cttcttcttc ttggtcttgg ccacaggccg gtcacaggcc ttgcggcccc ggttctggcg 240
caaaatctgc tggctcacag actcagccac ggtgcttctc gtctgtgtca gaaacttcag 300
gtttactctg aggtgggtctc gacactctcg cttccgggtac tcgtccagtg ccgacttggg 360
cacctttccc ttggccgagt tccgcagttt ctgggcctga attgccttcg tcttcggggg 420
ccgtttcacc gganccttc tccgcttggc ctgacctgga gggccccggg gggcctngga 480
cgccgccagc agctncaggc ccc 503

<210> 834
<211> 208
<212> DNA
<213> Homo sapien

<400> 834
atccagagac aatctgccgg ttgtcagagg agaaggccac actcagcaca tccttggtat 60
ggcccacaaa tcgcctcgtg gtgggtgccg ttgtgagatc ccagaggcgc agggttccat 120
cccaggagcc tgagagggca aactggccat ctgaggagat aaccacatca ctaacaaagt 180
gggagtgacc ccgagagca cgctgtgg 208

<210> 835
<211> 210
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(210)
<223> n = A,T,C or G

<400> 835
tgatgtgggc gattgatgaa aaggcggttg aggcgtctgg tgagtagtgc atggctagga 60
atagtcctgt ggtgatttgg aggatcangc aggcgccaag gaggtagccg aagtttcac 120
atgcggagat gttggatggg gtggggaggt cgatgaatga gtgggttaatt aattttatta 180
gggggttaat ttgctggtcg acgcggccgc 210

<210> 836
<211> 426
<212> DNA
<213> Homo sapien

<400> 836
cgccgccac gctggttttg catcttcagg agacgctcgt agccctcgcg cttctcctcg 60

239

gccaatcgc	ggaagaagt	gctcacgcct	tccagagcca	catcatcgcg	gtcgaaatag	120
aagcccagag	agaggtaggt	gtaggaggcc	tgcaggtaga	aattgaccag	gctgttgacg	180
gctgcctcca	cgtcggtgga	ataattctga	cgaatctggg	agctcatggg	tggttgga	240
gaaggagcta	accacaaaaa	cgggtgctggc	aggtcccaga	agcaggagat	ggccgagaag	300
atggtcccgg	aggttgcaag	cggagaggaa	atcggagggc	ggcggaggc	tggaagagag	360
tccccgatc	tggtccgtcc	aaacactgtt	gaagcaagag	acagacccgc	ggtcgacgcg	420
gccgcg						426

<210> 837

<211> 134

<212> DNA

<213> Homo sapien

<400> 837

ccagggccgt	gggcccagcc	cgccggggcc	gatccgagg	cctcactaaa	ccatccaatc	60
ggtagtagcg	acgggcgggtg	tgtacaaagg	gcagggactt	aatcaacgca	agcttatgac	120
ccgcacttac	tggtg					134

<210> 838

<211> 538

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(538)

<223> n = A,T,C or G

<400> 838

ggcgctctgg	tgcttaccac	ctggaaactg	gtgaggtggt	gggagaactc	ctggtggacc	60
ctagtgggaag	ccttccagta	atttcttgaa	gctgagcgct	caggtgagta	gggagacatc	120
tggtggccgg	ttgttgaagg	tcattgcaga	gaggaaggaa	gccgaggagg	ggagcctgca	180
gtgagggcgt	cctggggttc	tccggttctc	accacccctg	ggccacgcgc	tctagtccac	240
acctgaggag	ttgttcaggt	agaaggggcg	gatgaccgtg	cggaagccgt	tgaagtgcc	300
tgccgggcag	gggaaggagg	aggtgctctt	cgagctgttg	gtgtccaggg	cactgggaat	360
cgcagccttc	cagccctcga	aatcggtgac	gtctgccacg	aagagccctt	cgcagagcat	420
cagggccttg	ttttcgtagg	caatggtgcg	atctgagccg	ccagacttgg	tgaggccan	480
gacagggagc	tcgtccgagg	agcaggagaa	gccgtagttc	cagcagctct	ggatggtg	538

<210> 839

<211> 351

<212> DNA

<213> Homo sapien

<400> 839

aaggcgcaa	cggtggtgaa	agatatagca	ggcctggtct	ttgtacagcg	gatgctcgtg	60
aagagggggc	gagcggtaga	accttgggtc	cttgtagccg	cggtcccagg	gcggaagat	120
cggccgcgcc	agccagggca	cgaagtgcac	cttccccgca	aaggtgatgg	gctccagtcc	180
agggatctcg	tacccctat	ccaggggagg	aggctccgac	ttccgcgtgg	agcgacgcgc	240
ccactcatat	gccccgcgtc	tcggggcccc	gaagcccca	aggccgagct	gcccggagcc	300
agctagcgcc	cgccttgccg	gcccggacgc	caatgccata	ccgatctgat	a	351

<210> 840

<211> 574

<212> DNA

<213> Homo sapien

<400> 840

240

tggcctgcaa	ggccgcggac	agggcgagca	ccgagtcgta	cattttgcag	ctcatcatcc	60
ccgtgctctg	cgtgacgcag	tccatccaca	gccccttgta	catggcctgg	gccgtgatga	120
tgttgtcacc	cgcataggag	ctcatctgcc	actgcgggat	ggcggtgag	gccaccagac	180
ccaccagcc	cagcagggcc	atggagaagc	ccagcaactg	caggcccgaa	ttggccattt	240
ccgccctcag	aaaacactgg	gggcgcggg	cgggagaccc	tacagtaaaa	caaacgacac	300
ttggggggca	gccccacaaa	agaaaacttg	aggtggagtt	ttccggtcac	ccaaagagac	360
aaaaagggtt	tgggccaggt	gaatgcaaat	cttgtcacca	aactacacac	aaatcgacct	420
ctccagtgaa	gcgatggcct	cgcggcacag	ggagtaggat	acgccgggag	ggtggttcca	480
gacaaaattg	gtggtccccg	aaggccaggc	ggttccctcc	ggcgctctcg	gcgaccctag	540
gcaaacaaaa	ggtggagggg	ccgtctgggc	gcgt			574

<210> 841
 <211> 195
 <212> DNA
 <213> Homo sapien

<400> 841	
gacccagggg	cacaggtccc
agtcggggg	tgtgtgtagc
acatgctatc	tatctaccag
ccagcaaggg	ctctg
	60
	120
	180
	195

<210> 842
 <211> 207
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(207)
 <223> n = A,T,C or G

<400> 842	
cgcccgccct	tttttttttt
gtatgtgggg	gggaggggtg
aaacggngcc	cggaaagnng
gctaacatt	nttgccgcgc
	60
	120
	180
	207

<210> 843
 <211> 62
 <212> DNA
 <213> Homo sapien

<400> 843	
cgatggagcg	tgggtaggga
gg	
	60
	62

<210> 844
 <211> 118
 <212> DNA
 <213> Homo sapien

<400> 844	
ttgggtacac	tccctggtac
cggctggaga	cccacgacct
	60
	118

<210> 845
 <211> 99

<212> DNA

<213> Homo sapien

<400> 845

gtacactccc	ctgggtaccgg	gccccccac	taccgagtc	accttcgcac	acggcgagtg	60
gacactgtgg	accctcccta	cccacgtcc	atcgctcag			99

<210> 846

<211> 559

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(559)

<223> n = A,T,C or G

<400> 846

cggcgcgcct	ttttttttt	ttttggtgt	ggctganaat	gctggagatg	ctcagttctc	60
tccctcacaa	ggtaggccac	aaattcttgg	tggtgccctc	acatctgggg	tcttcaggca	120
ccagccatgc	ctgcgcagga	gtgctgtcag	gacagaccat	gtccgtgcta	ggcccaggca	180
cagcccaacc	actcctcatc	caagtctctc	ccaggtttct	ggcccgatg	ggcaaggatg	240
acccctccag	tggtctgtac	cccaccatcc	cactaccctc	cacatgctct	cactctccat	300
caggtcccca	atcctggcct	ccctcttcac	gaactctcaa	agaaaaggaa	ggataaaacc	360
taaatataac	agacagaagc	agctctggaa	caaaaagtac	aaaaagacag	ccagaggtgt	420
gcggagaggg	tgaggtggcc	gcgtggacgt	gggtagataa	tcgcatgcag	cactggaact	480
cctgatgagg	ggtgggggtc	ccacttctcc	tcaaggtttg	agggattggg	gggagggggg	540
cagctgactc	ananaagta					559

<210> 847

<211> 430

<212> DNA

<213> Homo sapien

<400> 847

cggcgcgcac	gctgggtttt	catcttcagg	agacgctcgt	agccctcgcg	cttctcctcg	60
gccagttcgc	ggaagaagt	gctcacgcct	tccagagcca	catcatcgcg	gtcgaaatag	120
aagccagag	agaggttagt	gtaggaggcc	tgcaggtaga	aattgaccag	gctgttgacg	180
gctgcctoca	cgctgggtga	ataattctga	cgaatctggg	agctcatggt	tggttgga	240
gaaggagcta	accacaaaaa	cggtgctggc	aggtcccaga	agcaggagat	ggccgagaag	300
atggtcccg	aggttgcaag	cggagaggaa	atcggagggc	ggtcggaggc	tggaagagag	360
tcccgcgata	tggtccgtcc	aaacactgtt	gaagcaagag	acagaccgc	gggacgtcga	420
cgcggccgcg						430

<210> 848

<211> 546

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(546)

<223> n = A,T,C or G

<400> 848

agagtaaagt	gcagcctctc	cagacactgg	ggccccagt	ggcgtggg	aagttgctgg	60
taggaggagt	tgccggaagc	acttggaact	cctttataag	tgtagctgt	gagattttaa	120
tttgatttga	aaatgagtaa	gtgcanaaag	acaccagttc	ancagctagc	aagtcgccgc	180

242

tcattcagcc	cagatattct	tgtcgacatt	tttgaactct	ttgccaagaa	cttttcttat	240
ggcaagccac	ttaataatga	gtggcagtta	ccagatocca	gtgagatttt	cacctgtgac	300
cacactgaat	ttaatgcatt	tcttgatttg	aagaactccc	taaatgaagt	aaaaaaccta	360
ctgagtgata	agaaactgga	tgagtggcat	gagcacactg	ctttcactaa	taaagcgggg	420
aaaatcattt	ctcatgttag	aaaatctgtg	aatgctgaac	tttgtactca	agcatggtgt	480
aagttccatg	agattttgtg	cagctttcca	cttattccac	aggaagcttt	tcagaatgga	540
aaactg						546

<210> 849

<211> 196

<212> DNA

<213> Homo sapien

<400> 849

gaagtccctc	agcaggccac	gctcggacag	ggtgcgcctc	aaggacttct	ttctgatgag	60
ggggaccttg	tacatgatgc	actcagagag	cgccaccaga	cccagcagca	gcagccactt	120
catggttctt	cccgggtccc	aactcgaggg	agaaggcgctc	gacgcggccg	cgaattccac	180
cacactggac	tagtgg					196

<210> 850

<211> 543

<212> DNA

<213> Homo sapien

<400> 850

cactgatatt	ggagaaaagc	acatccggca	taaagtgtaa	accagtgtct	caaacactgg	60
aagaaccggg	agagcaaaca	tgatttttct	tatttcctct	aagtaatctt	totttagtaa	120
aacaacaagt	gatctttggc	atagattcat	actttaaagg	cattaatatt	gcattttatat	180
caggcaagca	actatacaaa	tatgctgagg	gccttgaaaa	taatcatcct	catttttaaag	240
gaaatagtga	aagcctgagt	gtaaaggacc	aacttaagtt	gtacacattc	gatgttgggg	300
actaacacac	agcgatgggt	gggaagggaag	gatgttcagg	caaggttctt	actcctttac	360
tcactctgggt	ctggcttttg	gaaaaataaa	ggtttcattgt	gctgggaaat	acttagcagt	420
aataagtacc	aaaaaggaaa	cactgccctc	tcattttgcc	tagtaggaac	ttactgtggt	480
gataagaaat	atgaaaccac	ttactctctt	gaaccccata	cttgggagta	gatgcagaga	540
gct						543

<210> 851

<211> 190

<212> DNA

<213> Homo sapien

<400> 851

aggcggagag	gatcatgtcc	gggaactgcg	gggtagtagc	gatctggggt	accagccgt	60
tgtggccctt	gaggggtcca	cgaagggtca	tctgctcagt	catggcggcg	gcgagagcgt	120
gtgtcgctgc	agcgacgagg	atggcactgg	atggcttaga	gaaactagca	ccacaacctc	180
tcctgcccgc						190

<210> 852

<211> 407

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(407)

<223> n = A,T,C or G

<400> 852

243

```

aggcctcaca gaggcggggg cagaaggcgg cgacccanag ccgccacatc ccccgcccttg      60
ggcgccgtca cagtccccag acgcccctgga ctctgcagct ctacgaagac gcgcggggga      120
cggcgtggtt ccgagagagg gcgccaaagg cgacgtgccg gccgccagct ccaggccgag      180
ccccgagcgc ctgcaggaac agggccccttc acccggcgcg ggacgcagag ctgcgagaga      240
atcttggtta gcgcggactc aacgccaggg cgccgcctag aggttggtct ctgtctcggc      300
ctcaccgcgc gggagaccac agagctgctt cccagccgc ccgccgccag aaattggaaa      360
aaaaaaaaatc cagctggggg ctaggaaactc ggcttctggc acctctg      407

```

<210> 853
 <211> 626
 <212> DNA
 <213> Homo sapien

```

<400> 853
acagtccag tactctttgc tcagctttcg gggccggcct cgtttccgct tcccggtgctt      60
gggatcccc ttcttgagct caccgaaacc atcgctgggg aagagcttgc catcagtggg      120
atccaggtcc acgtcaacttc caccggagtc tgaggagtgg gagctccgag aagcaccagt      180
ccctgcgggtg gagacgtcag agctgccggg ggagggggct cctgcgccac agctgccggg      240
gtggtagggg ctggcttgct gaccgtcgtc cagcagctcc tgggcaaagg ggctgccctg      300
gtcaaaagggc cctgggtcta gggcctcctg gaaggccatg ccataccttct ccagcagctc      360
aatgatccaa ctgagctcat cagaagagct ggaagtggag tctcgcagct gggcatggag      420
ttggtcccc agaggcccaa agaccagacg cagctcctca agggcacaat tgcagagggg      480
ggcgccatcc atgtcacatc gtgagaagtc aatggcgctt gcgtcgtact tgttcttctc      540
cacttggtag ctgatccagt ccagaacctg cgtcttcgac cagaactggg gctgttcccc      600
caaccagctg gccttctctg taccct      626

```

<210> 854
 <211> 218
 <212> DNA
 <213> Homo sapien

```

<400> 854
atgacggctg cccgaagccc cccgagattg cacatggcta tgtggagcac tcggttcgt      60
accagtgtaa gaactactac aaactgcgca cagaaggaga tggagtatac accttaaagt      120
ataagaagca gtggataaat aaggctgttg gagataaact tcctgaatgt gaagcagtat      180
gtgggaagcc caagaatccg gcaaacccag tgcagcgg      218

```

<210> 855
 <211> 50
 <212> DNA
 <213> Homo sapien

```

<400> 855
gaggaacgaa gaataaagga gattgtgaag aaacattctc agttttattgg      50

```

<210> 856
 <211> 116
 <212> DNA
 <213> Homo sapien

```

<400> 856
tccactagtc cagtgtggtg gaattcgcgg ccgcgtcgac gccccgcgag cacagagcct      60
cgcctttgcc gatccgccgc ccgtccacac ccgcgccag ctcaccatgg atgatg      116

```

<210> 857
 <211> 402
 <212> DNA
 <213> Homo sapien

```

<400> 857
ggcgacgacc ccaagaggga ggtgggccac gatttctact tcttttttca ccattcgaca      60
gttccactct tacacggcag ccacatagtg ttcttccatc tagctctcgg actgcatcag      120
ctgcatctcg gggatcttca aattcaacaa aagcaaagcc gggtggttt ctagcaaccc      180
acacacttcg gagtgggtcca tagtagccaa aagcccgttc caattccgtc ttgttgccat      240
tgtttccaag attgcctaca taaaccttac agtccaatgg acaggaatca cgatgcattt      300
cgagatctag ggttaaaaaa tgcggcgggt caaatccaca cgctccgatg agtcttcccg      360
ctttctcccg gcccaacacc aaccaacgtc gacgcggccg cg                        402

```

```

<210> 858
<211> 172
<212> DNA
<213> Homo sapien

```

```

<400> 858
acattttatg acctctccca ataggggcag aggtgagcac ccctggtgaa aagttaagac      60
tcagtgagta taaatacgcc aagaagagct gtggcttctt tcaactggtg cctcagaaag      120
gctgtgagca gtgttggtgg catacctgtc acagcatcta gcaaagcacc tg              172

```

```

<210> 859
<211> 196
<212> DNA
<213> Homo sapien

```

```

<400> 859
aggcggagag gatcatgtcc gggaactgcg gggtagtagc gatctgggtt acccagccgt      60
tgtggccctt gaggggtcca cgaagggtca tctgctcagt catggcggcg gcgagagcgt      120
gtgtcgtcgc agcgacgagg atggcactgg atggcttaga gaaactagca ccacaacctc      180
tctgcccggc ggtcga                        196

```

```

<210> 860
<211> 538
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(538)
<223> n = A,T,C or G

```

```

<400> 860
ggcgctcctg tgcttaccac ctggaaactg gtgaggtggt gggagaactc ctggtggacc      60
ctagtggaag ccttccagta atttcttgaa gctgagcgtc caggtgagta gggcgacatc      120
tggtggccgg ttgttgaagg tcattgcaga gaggaaggaa gccgaggagg ggagcctgca      180
gtgaggcgtt cctgggggtt tccggttctc accacccttg ggccacgccc tctagtccac      240
acctgaggag ttggtcaggt agaaggggcg gatgaccgtg cggaagccgt tgaagtgcc      300
tgccgggcag ggaaggagg aggtgctctt cgagctgttg gtgtccaggg cactgggaat      360
cgagcccttc cagccctcga aatcggtgac gtctgccacg aagagccctt cgagagcat      420
cagggctttg ttttcgtagg caatgggtgcg atctgagccg ccagacttgg tgaggccan      480
gacagggagc tcgtccgagg agcaggagaa gccgtagttc cagcagctct ggatggtg      538

```

```

<210> 861
<211> 204
<212> DNA
<213> Homo sapien

```

```

<400> 861

```

245

aggcggagag	gatcatgtcc	gggaactgcg	gggtagtagc	gatctggggt	accagccgt	60
tgtggccctt	gagggtgcca	cgaagggtca	tctgctcagt	catggcggcg	acgagagcgt	120
gtgtcgctgc	agcgacgagg	atggcactgg	atggcttaga	gaaactagca	ccacaacctc	180
tcctgccgcg	tcgacgcggc	cgcg				204

<210> 862
 <211> 217
 <212> DNA
 <213> Homo sapien

<400> 862						
aatgtcaggg	gtgttggggg	ctttggctgg	gtcctgggtc	ttcgtgtaga	gacctggagg	60
cgcttggttc	ttggggttct	ccaggattcc	agcctcgtag	ctgatgtgca	tgaggttctc	120
atccatgctc	cacgggttct	tgggagtgc	cgggatggga	atcccgtgtt	gctttgcgta	180
ctccatcagg	tcattgcggc	ccttgaaccg	gttgtag			217

<210> 863
 <211> 192
 <212> DNA
 <213> Homo sapien

<400> 863						
aggcggagag	gatcatgtcc	gggaactgcg	gggtagtagc	gatctggggt	accagccgt	60
tgtggccctt	gagggtgcca	cgaagggtca	tctgctcagt	catggcggcg	gcgagagcgt	120
gtgtcgctgc	agcgacgagg	atggcactgg	atggcttaga	gaaactagca	ccacaacgtc	180
gacgcggccg	cg					192

<210> 864
 <211> 147
 <212> DNA
 <213> Homo sapien

<400> 864						
tttccccttg	aagaagtaga	cccgctcccg	gccactgtag	ctatgggcag	ggagggccaa	60
ggctgcatcc	acgttggtccg	ggatgccatc	gaagccgtca	gagatatttc	gggggtaatc	120
agggtccagg	acaccatcct	caaagcg				147

<210> 865
 <211> 446
 <212> DNA
 <213> Homo sapien

<400> 865						
cggccgctgg	acttggttg	agctgtgagg	ggtgggaggg	gaggatagca	ccggaagatg	60
ctgctccggg	cccaacacca	gccctggcca	ggctctcccc	tcccaggggc	agcgcccagt	120
ccccaggggc	tgccagagcc	ctgtgtgcct	tgccgcattc	ccctgatgca	gcttttgcca	180
actgaaagcg	agggctctcg	ctgagtgcac	ctggggcttc	ctgagcccat	ctgcggcggc	240
cccaccctgg	cctaggtgct	gagtgcagct	gctgcagaca	gcccctccct	ccttagtgga	300
gcctggaggg	tggggtgctc	ggggatgcag	gcaggggcag	gggctccaga	gccacaggtc	360
agaagcaggg	ctgggggagg	ggtggagcca	ttcagcctca	ggcaccctca	cagctaggtg	420
actaggggca	gggacagaat	ggggtg				446

<210> 866
 <211> 87
 <212> DNA
 <213> Homo sapien

<400> 866

246

tccctcaact ggaccatggg cctgcccacc gacaatggcc acgacagcga ccaggtgttt 60
gagttcaacg gcaccagggc agtgagg 87

<210> 867
<211> 123
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(123)
<223> n = A,T,C or G

<400> 867
cncctggtac cgggcccccc cactttaaaa tcttttgta agaaatagga aagattagga 60
aatatcatatc tgcacctgaa atgctgcagc aggggttttt gtttgcttgt ttttgcctt 120
cag 123

<210> 868
<211> 634
<212> DNA
<213> Homo sapien

<400> 868
caggctgcgg taggtggcaa tctcctgctc cagccgcgac ttgatgtcca tgagccgctg 60
gtactcctga ttctgccgct cactatcagc tcgcacatcg ccagctggg cttcaatacc 120
gctgatcagc gcctggatat gcgccagctg ggctccaaag cgcgcctccg tttctgccag 180
tgtgtcttcc aaggcagctt tcatgctcag ctgtgactgc agctcaatct caagaccctg 240
aagggtgcgc cgcaggtcag taacctcgga cctgctcatc tggagctgct ccgtgtggcc 300
agcgacctcc cggttcaatt cttcagtcag gctggtgaac caggcttcag cctccttccg 360
gttctgctcg gccatgacct catattggct tcgcatgtca ctcaggatct tggcgagatc 420
gggtgccgga gcggaatcca cctccacact gacctggcct ccacttggc ccctcagcgt 480
actgatttcc tcctcatggt tcttcttcag gtaggccagc tcttccttca ggccttcgat 540
ctgcatctcc aggtcgggtc tggccagggt cagctcatcc agcaccctgc gcaggccggt 600
gatgtcggcc tccacgctca tgcgcagagc ctgt 634

<210> 869
<211> 197
<212> DNA
<213> Homo sapien

<400> 869
aggcgagag gatcatgtcc gggaactgcg gggtagtagc gatctgggtt acccagccgt 60
tgtggccctt gagggtgcca cgaagggtca tctgctcagt catggcggcg gcgagagcgt 120
gtgtcgtgc agcgacgagg atggcactgg atggcttaga gaaactagca ccacaacctc 180
tcctgccgcc gtcgacg 197

<210> 870
<211> 579
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(579)
<223> n = A,T,C or G

<400> 870

247

cgcccgccct	tttttttttt	tttttttttt	tttttatggg	gccaatttta	aatagtttta	60
tttaagacat	tgcattttcc	acttacaata	cagtgtttat	aaagtgcaat	gttatttcct	120
tcccctgtgc	atatgttcca	tattcaagta	ttganaatgc	ccagtaactt	actatagcag	180
cttaactttt	taaaactgcc	acagaatttg	ctacnaattt	aggnccctca	aatgttttaa	240
atgtgnggaa	caatgctaca	tntacacttg	gntggcttaa	tcaacctntt	caatgggggg	300
ccttgaggaa	gcncncncag	agggaggagc	tccaccacca	ggaaatcccc	caggcattcc	360
tcttgccatg	cctcctgcac	tntggtagag	cttgggtgatg	atgggggttgc	aaactttctc	420
cagctntttc	tgntgatggt	caaattcttc	cttctcagca	gtctgattnt	tatcaagcca	480
gnngataatt	tcattacact	tgteccanaat	cttctgtntg	ncctcatcgn	taatcttgcc	540
ttgaagtttc	tcattcttcaa	cagntgcttt	catgttgaa			579

<210> 871

<211> 518

<212> DNA

<213> Homo sapien

<400> 871

ctttctcctt	cttatagacg	ttccggacgg	gcattgaccg	tccggtcagc	tgggtggcca	60
gtttcagttc	ttcagcagaa	ctgtctccct	tcttgggggc	cgagggtctc	ctggggaaga	120
ggatgagttt	ggagcggtag	tccttcagcc	gctgcacgtt	ggcctgcagg	gactccgttg	180
acttggtccg	cctcctcgga	tccacagaaa	tgccgatggg	ccggggccacc	ttcttgtgaa	240
tgccggccac	cctgagctcc	tccaggctga	agccgcggcc	ggcgcgcacc	ttcgtgtggt	300
accgaaccgt	ggggcagcgc	acgatgggcc	ggatgggacc	cgacgcgggg	cgcggggcca	360
tgcggcgcgc	cttggtcttg	cgggccttac	gtctgcggat	cttacggggc	ggctggttga	420
accacgtggc	cacgcgcgc	tgccagtcct	tgtggaagtg	gggcttcaag	accatgccat	480
tccggctggg	cgccatggct	gcctacggcc	ctgcggct			518

<210> 872

<211> 404

<212> DNA

<213> Homo sapien

<400> 872

ctaaacactg	tccagcgcag	gggggtgcta	gggaggtagc	gtgacaacac	gatggctgcg	60
atgectgaag	tgatgaccac	gatggcgga	gtgacagaga	ggatgttgac	cacgcagtac	120
tgcagagcca	ccgcatcttg	aggggtgccc	acgtagcgca	gcaactgtgc	atggaacagg	180
gcagctgtga	tgaagctcac	atggcccagc	accaccagca	ccaggcctgt	cttcatcagc	240
accttccgga	agtgcgccac	actcaggcct	ccgaggcgca	gacacatgtc	ggctccgcgc	300
tggtcccgcg	cccggcttca	gcgcggctcc	cgaggctgcg	ggccgcgggg	ggaccctgct	360
cccatccgcg	tggtccgtcg	cccgcgcgcg	ccgcaccgtc	gcgt		404

<210> 873

<211> 175

<212> DNA

<213> Homo sapien

<400> 873

ggctgccagc	gcctctaccc	cgtgctgcag	cagagcctgg	tgcgggccgc	ccgccgcagg	60
ggcgccgcgc	cccagccctg	aaccagaagc	ctgagcaact	acggacgcaa	gccgaggacc	120
gtgctgccgc	cgccacagaa	aagaccgcgc	ccatcggcct	ccagtttgcg	tcgag	175

<210> 874

<211> 215

<212> DNA

<213> Homo sapien

<400> 874

ggtagagaac	cctgcggctg	cgctttcggt	gcccgcgaga	ggcgctgggg	cgcccggcag	60
------------	------------	------------	------------	------------	------------	----

gggcccgtgc	gggctccggg	agagggtcga	aggtgaagat	ctcaggaccg	gagccccgcc	120
ggggtcccg	gatggtggag	ggggccgggg	tcggggcctg	caggatggtc	atggtcgggt	180
ggcagctgcg	agagtgcac	atggtgagcc	gagcgc			215

<210> 875

<211> 208

<212> DNA

<213> Homo sapien

<400> 875

atccagagac	aatctgccgg	ttgtcagagg	agaaggccac	actcagcaca	tccttggtat	60
ggcccacaaa	tcgcctcggt	gtggtgcccg	ttgtgagatc	ccagaggcgc	agggttccat	120
cccaggagcc	tgagagggca	aactggccat	ctgaggagat	aaccacatca	ctaacaaagt	180
gggagtgcac	ccgcagagca	cgctgtgg				208

<210> 876

<211> 484

<212> DNA

<213> Homo sapien

<400> 876

gagcagctgg	tttctcctgg	acagcagcat	ctggctccgc	tccttcgga	actccaggta	60
ctccttattg	tttttgagct	tggtcatgca	gtccatgagg	gctgggtagc	cacctgagaa	120
tcgccacagg	tgcactgcct	ggtcctgctc	cccataccac	gtgttccagt	tgcccacgag	180
tgagcatggg	tagtcctcat	ccaggtgaag	cttgggcagc	acagcctccg	tgaggctggt	240
gtaggcatcc	aggtattcag	gctttacatt	gtgaaactgg	atcttataga	ggttgctggt	300
ttccttcttg	gacagcaggg	tggagtgggc	atccttcctg	ggatccactt	tgtgaacaaa	360
gagggagcgg	aaccagctgc	cttcattgtc	cttggaatag	aaacgcgccg	cagctgcaga	420
cgcaacgtcc	ccagcgcgag	gccccggggc	ccccagcagc	cgccgcgccg	tcacagagat	480
gctg						484

<210> 877

<211> 558

<212> DNA

<213> Homo sapien

<400> 877

ggcgtcctgg	tgcttaccac	ctggaaactg	gtgaggtggt	gggagaactc	ctggtggacc	60
ctagtggaaag	ccttccagta	atttcttgaa	gctgagcgct	caggtgagta	gggcgacatc	120
tggtggccgg	ttgttgagg	tcattgcaga	gaggaaggaa	gccgaggagg	ggagcctgca	180
gtgagggcgt	cctgggggtc	tccggttctc	accacccttg	ggccacgccg	tctagtccac	240
acctgaggag	ttggtcaggt	agaagggggc	gatgaccgtg	cggaagccgt	tgaagtgcc	300
tgccgggcag	gggaaggagg	aggtgctctt	cgagctgttg	gtgtccaggg	cactgggaat	360
cgcagccttc	cagccctcga	aatcggtgac	gtctgccacg	aagagccctt	cgcagagcat	420
cagggccttg	ttttcgtagg	caatggtgcg	atctgagccg	ccagacttgg	tgaggcccag	480
gacagggagc	tcgtccgagg	agcaggagaa	gccgtagttc	cagcagctct	ggatggtggg	540
gaggtagacc	agggacca					558

<210> 878

<211> 503

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(503)

<223> n = A,T,C or G

```

<400> 878
cgcccgcaac cgcgcgaacc cgaagtcgat gatatttcacc ggggccccgg gcgtgtcgtc      60
ggcgtagcagg atgtttctccg gcttgaggtc gcggtgcacc acgcccgcct cctcgtgcat      120
gaagctcacg gncgacacga ggctgcgcag gatctggctt gcttccgact cgctgaagtg      180
ccgcntcttg cggatgtgct ccagcagctc cccgccccgc agcagctcca ggaccaggta      240
cgtgtgcagc tggctcgtgat gcacctcgtg cagattcacc acgttggggg gtgactggca      300
caggcgacag gcagccactt cgcgctgcgt gttcgcctcc agcctgcgac tgaggatctt      360
gactgcgaac tcctggccgc tctggcgctg gcggcagcgg cgacacacag aaaagctgcc      420
ctggcccagc gcaggctccc gcaggtccag ctcgtactgc tggaagaagg gcgagtctctg      480
catcatagcg ctctggcca ccg                                         503

```

```

<210> 879
<211> 78
<212> DNA
<213> Homo sapien

```

```

<400> 879
ctgcctcggc tggcgggcgg ggggaggcgg agagctcggg gcacgcgctg ccgtccggac      60
cgcgtcgacg cggccgcg                                           78

```

```

<210> 880
<211> 211
<212> DNA
<213> Homo sapien

```

```

<400> 880
tgatgtgggc gattgatgaa aaggcgggtg aggcgtctgg tgagttagtc atggctagga      60
atagtctctgt ggtgatttgg aggatcaggc aggcgccaaag gagtgcgagc aagtttcatc      120
atgcggagat gttggatggg gtggggaggt cgatgaatga gtggttaatt aattttatta      180
gggggttaat tttgcggtcg acgcggccgc g                                         211

```

```

<210> 881
<211> 373
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)... (373)
<223> n = A,T,C or G

```

```

<400> 881
cccacagtgg cttgtttccg cagtgcgcgg ccgtcannac ccaactctgg tccaccagga      60
caccgcgcga gtggaacgag aggccgtnga agagcgagac ctgccagggc tgcgagccgc      120
gcgcgcacgg ggcgccatag gcttcggggg ccaagcgcgt gtcgttttgg gggagcagcg      180
ccgcctctgc ggcccagagt tgcgccatca gcagcggcag cagcttcgcc agagcccggg      240
cgccagaggg ggcggagagg tggaggtgcg gagctctcat ggccaggatc tgggagtcgc      300
cgatagggaag gagggagggg acccagacgt gcctntgccc tgcctgtggg ctgccgcgtc      360
cgacacggcc gcg                                         373

```

```

<210> 882
<211> 300
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)... (300)

```


<223> n = A,T,C or G

<400> 882

cgcccgcggtt	tttttttttt	ttttcagaca	attcagcctt	tattttanaa	aataattctg	60
tagcttccac	tttctttcat	gaaactgagg	tcaggcaaga	aacaaaaatc	caccaagtcc	120
tctccatcct	gccatggcgt	cctggcctgt	gaggacatgg	ggcgctggg	agcgggcggg	180
gaggctgggc	agcactgggc	cagaggcgct	ctggctcactg	ctccacctgg	tcactgctcc	240
acctcatgct	gagaggagcc	tgtgtgtcaa	accccagggg	aaaaagggac	aggcagatcg	300

<210> 883

<211> 230

<212> DNA

<213> Homo sapien

<400> 883

ggtagagaac	cctgcggctg	cgctttcggt	gcccgcgaga	ggcgctggg	cgcccggcag	60
gggcccgtgc	gggctccggg	agagggtcga	aggtgaagat	ctcaggaccg	gagccccgcc	120
gggggtcccgg	gatggtggag	ggggccgggg	tcggggcctg	caggatggtc	atggtcgggt	180
ggcagctgcg	agagtgcacac	atggtgagcc	gagcgggtcga	cgcgccgcg		230

<210> 884

<211> 601

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(601)

<223> n = A,T,C or G

<400> 884

gcccccaatt	ccagctgcca	caccacccac	ggtgactgca	ttagttcgga	tgtcatataa	60
aagctgattg	aagcaaccct	ctactttttg	gtcgtgagcc	ttttgcttgg	tgcaggtttc	120
attggctgtg	ttggtgacgt	tgtcattgca	acagaatggg	ggaaaggcac	tgttctcttt	180
gaagtagggg	gagtcctcaa	aatccgtata	gttggtgaag	ccacagcact	tgagcccttt	240
catggtggtg	ttccacactt	gagtgaagtc	ttcctgggaa	ccataatctt	tcttgatggc	300
aggcactacc	agcaacgtca	ggaagtgtc	agccattgtg	gtgtacacca	aggcgaccac	360
agcagctgca	acctcagcaa	tgaagatgag	gaggaggatg	aagaagaacg	tcacgagggc	420
acacttgctc	tcagtcttag	caccatagca	gcccaggaaa	ccaagagcaa	agaccacaac	480
gcgggtgcg	atgaggaagt	agcccacgtt	gacaaaactgc	atggcactgg	acgacagtgg	540
cccgaagatc	ttcanaaagg	atgcccacac	gattgacacc	cagatgccca	ctgccaacag	600
g						601

<210> 885

<211> 207

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(207)

<223> n = A,T,C or G

<400> 885

caggcgagga	ggatcatgtc	cgggaaactgc	ggggtagtag	cgatctgggt	taccagccg	60
ttgtggccct	tgagggtgcc	annaagggtc	atctgctcag	ncatggcggc	ggcgagagcg	120
tgtgtcnntg	cagcgacgag	gatggcactg	gatggcttag	agaaactagc	accacaacct	180
ctcctgccgc	cggtcgacgc	ggccgcg				207

<210> 886
 <211> 442
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(442)
 <223> n = A,T,C or G

<400> 886
 cancttatan aaanggnaaa ggaaacccca acatgcntgc nctgccttgg tgaccaggga 60
 agtcacccca cggctatggg gaaattancc cgaggcttag ctttcattat cactgtctcc 120
 onnggtgtgc ttgtcaaaga gatattccgc cnagccanat tcgggcgctc ccatcttgcg 180
 caagttgggc acgtgggtcac ccaattcttt gatggcttgc acctgctcat tcaggtaatg 240
 tgtctcaatg aagtcacaca aatgggggtc atttttgtca gnggccagtt tgtgcagttc 300
 cagtagtgac tgattcacat ttttttccaa atgtaatgca cactccattg cattcagccc 360
 gctctcccag tcatcacagt ctggtttntt gatatcctga aggaagattc ggccacctcg 420
 tnggttctgc agcttcatca gt 442

<210> 887
 <211> 222
 <212> DNA
 <213> Homo sapien

<400> 887
 gctcaggctc caaagccagc aggaagagg tagctcgga cgtggagccg ccgcccaggt 60
 gcgccaggac cacctcggcc gtcaccttag ccaggtggct gcttaggtcc actgtgcgct 120
 tcacgtcctc attgatcagc ggcggtgcct cggaggagcc gctgcccggc gccggggccc 180
 aagtcaccaag caacaggagc agaaacaagc cggcggtctg cg 222

<210> 888
 <211> 89
 <212> DNA
 <213> Homo sapien

<400> 888
 ggtggcgtag cgcccgttta taaagccgca acaccttttg ctgatgggtc aggtagggtc 60
 ccgacgccaa gaacgccatt acggccgcg 89

<210> 889
 <211> 451
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(451)
 <223> n = A,T,C or G

<400> 889
 gcggnccgtg gacttggctt gagctgtgag ggggtgggagg ggaggatagc accggaagat 60
 gctgtccgg gcccaacacc agccctggcc aggcctctcc ctcccagggg cagcgcccag 120
 tccccagggg ctgccagagc cctgtgtgcc ttgccgcatc cccctgatgc agcttttggc 180
 aactgaaagg cagggctctc gctgagtgc cctggggctt cctgagccca tctgcggcgg 240
 cccacccctg gcctagggtc tgagtgcagc tgctgcagac agccctccc tccttagtgg 300
 agcctggagg gtgggggtgct cggggatgca ggaggggca ggggctccag agccacaggt 360

252

cagaagcagg gctgggggag ggggtggagcc attcagcctc aggcaccctc acagctaggt 420
gactaggggc agggacagaa tggggtgaat t 451

<210> 890
<211> 66
<212> DNA
<213> Homo sapien

<400> 890
tccactagtc cagtgtggtg gaattcgcgg ccgcgtcgac ctgctgcctc acccacagct 60
tttgat 66

<210> 891
<211> 599
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(599)
<223> n = A,T,C or G

<400> 891
gggcgtcctg gtgcttacca cctggaaact ggtgaggtgg tgggagaact cctggtggac 60
cctagtggaa gccttccagt aatttcttga agctgagcgc tcaggtgagt agggcgacat 120
ctggtggccg gttgttgaag gtcattgcag agaggaagga agccgaggag gggagcctgc 180
agtgagggcg tcctgggggtt ctccggttct caccaccctt gggccacgcc gtctagtcca 240
cacctgagga gttgttcagg tagaaggggc ggatgaccgt gcggaagccg ttgaagtgcc 300
ctgccgggca ggggaaggag gaggtgctct tcgagctgtt ggtgtccagg gcactgggaa 360
tcgcagcctt ccagccctcg aaatcgggtga cgtctgccac gaagagccct tcgcagagca 420
tcagggcctt gttttcgtag gcaatgggtgc gatctgagcc gccagacttg gtgaggccca 480
ggacagggag ctctgtccag gagcaggaga agccgtagtt ccagcagctc tggatgggtg 540
ggaggtagac cagggaccag gacaccctct tgtcctggaa gangaagctg ggggtgttgt 599

<210> 892
<211> 113
<212> DNA
<213> Homo sapien

<400> 892
gtetcaaaca ggaccgcatt tccggcattt cggctggtgt ccgtgttagt ggccacctgg 60
gccagcaagt cattcatggt ctcaactgctc tcctcgtggt tccggcccag gat 113

<210> 893
<211> 208
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(208)
<223> n = A,T,C or G

<400> 893
gaggcggaga ggatcatgtc cgggaactgc ggggtagtag cgatctgggt taccagccg 60
ttgtggccct tgagggtgcc acgaagggtc atctgtcag tcatggcggc ggcgagagcg 120
tgtgtcgtg cagcgacgag gatggcactg gatggcttan agaaactagc accacaacct 180
ctcctgccgg tcgacgcggc cgcaatt 208

<210> 894
 <211> 67
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(67)
 <223> n = A,T,C or G

<400> 894
 gcgatgganc gtgggtaggg aggggccaca gtgtccactc gccgtgtgag aaggttgact 60
 cggtagt 67

<210> 895
 <211> 58
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(58)
 <223> n = A,T,C or G

<400> 895
 ggggcccggc tttttttttt tttttttttt tttttttttt ttttttcccn cncataaaa 58

<210> 896
 <211> 177
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(177)
 <223> n = A,T,C or G

<400> 896
 gacattttat gacctctccc aatnggggca gaggtgagca cccctgggtga aaagttaaga 60
 ctnagttagt ataaatacgc caanaanagc tgtggccttct ttcactgggtg tcctcagaaa 120
 ggctgtgagc agtgttggtg gcatacctgt cacagcatct agcaaagcac ctgaatt 177

<210> 897
 <211> 542
 <212> DNA
 <213> Homo sapien

<400> 897
 gctttctcct tcttatagac gttccggacg ggcattgaccg gtccggtcag ctgggtggcc 60
 agtttcagtt cttcagcaga actgtctccc ttcttggggg ccgagggtt cctggggaag 120
 aggatgagtt tggagcggta ctccctcagc cgtgcacgt tggctgcag ggactccgtg 180
 gacttggtcc gctcctcgg atccacagaa atgccgatgg tccgggccac cttcttggtg 240
 atgccggcca cctgagctc ctccaggctg aagccgcggc cggcgcgcac ctctgtgtg 300
 taccgaaccg tggggcagcg cacgatgggc cggatgggac ccgacgcggg gcgcggggcg 360
 atgcggcgcg ccttggttg ccgggcctta cgtctgcga tcttacgggc cggctgggtg 420
 aaccacgtgg ccacgcgccg ctgccagtc ttgtggaagt ggggcttcaa gaccatgcca 480
 ttccggctgg gcgcatggc tgctacggc cctgcggctc ctggtcgacg cggccgcgaa 540

. 254

tt

542

<210> 898
 <211> 165
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)..(165)
 <223> n = A,T,C or G

<400> 898
 tancnatctg ggttaccag ccgttggtgc ccttgagggn gccacgaagg gtcattctgct 60
 cagtcatggc ggcggcnana gcgtgtgtng ctgcancgac gaggatggca ctggatggct 120
 tanagaaact agcaccacaa cctctcgtcg acgcggccgc gaatt 165

<210> 899
 <211> 67
 <212> DNA
 <213> Homo sapien

<400> 899
 tccactagtc cagtgtggtg gaattcgcgg ccgcgtcgac gctgctgect caccacagc 60
 ttttgat 67

<210> 900
 <211> 77
 <212> DNA
 <213> Homo sapien

<400> 900
 cttccaggtc cagagctccc aggtttccag gttgcagtc ctccagtccc agagctccca 60
 gggtttcggt ttccagt 77

<210> 901
 <211> 114
 <212> DNA
 <213> Homo sapien

<400> 901
 gggccgggga ggacggctgg gggctccggg gtcgcctgca caattgcctg agcaggagge 60
 gcaagtggga gatgacgata aagggcgggg ccagcgcggg ccgagagtgg aatt 114

<210> 902
 <211> 64
 <212> DNA
 <213> Homo sapien

<400> 902
 tacactactc ctgaggatgc tactcccag cccggagagg acccagcgt gaccggggcc 60
 aagt 64

<210> 903
 <211> 63
 <212> DNA
 <213> Homo sapien

<400> 903
 tcaaaagctg tgggtgagggc aggtcgacgc ggccgcgaat tccaccacac tggactagtg 60
 gat 63

<210> 904
 <211> 142
 <212> DNA
 <213> Homo sapien

<400> 904
 tcctcagcca gggagacagg gaccaggcag cacaggcctg ccagcaggag gatgccccac 60
 gagacagaag acggcattgt cgattcactg tcccagggtca ggtcgacgcg gccgcgaatt 120
 ccaccacact ggactagtgg at 142

<210> 905
 <211> 101
 <212> DNA
 <213> Homo sapien

<400> 905
 tccactagtc cagtgtggtg gaattcgcg cgcgctcgac gccacctccg agagcctgga 60
 tgtgatggcg tcacagaaga gacctccca gaggcacgga t 101

<210> 906
 <211> 506
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(506)
 <223> n = A,T,C or G

<400> 906
 ggggcccgcac acacagccag gcgctaggct ccctgcggga cctcgggaag ggggaagagc 60
 gtcaacaatt tacggagggt ccagccgctg ggtcagattg agacaaacca ttgtgtggtt 120
 gggtttggtg cagcaggctg gagagggttc tgttcttttt gatcattatc gtttggggcc 180
 ccaaggaggg gtcttgaggg ccacctgagc cccaaagctg ggaaattcct canagctgct 240
 catgtcagga gccttctcac tgcgtgctggc ggnccagggt gcgtcccgcg ccacaaagcc 300
 tntggaagggt gccttggcct ctctgtgtgc tgggggtttc atgtatacct gcagcgcctc 360
 actgtccacc acgtcagcta ggtattcctc ctccagattg aggatgtggt cgatggcttc 420
 ctccacattc tctgggagcc ccgtcacagt gacgcagttg gggctctggg ctccgctctg 480
 tgggaagcga atgtccacct tgaatt 506

<210> 907
 <211> 93
 <212> DNA
 <213> Homo sapien

<400> 907
 tcccgtgca caagttcacg tccatccgcc ggaccatgtc ggagggttggg ggctctgtgg 60
 aggacctgat tgccaaaggc cccgtctcaa agt 93

<210> 908
 <211> 238
 <212> DNA
 <213> Homo sapien

<400> 908
 gggtagagaa cctgceggct gcgctttcgg tgcccgcgag aggcgctggg gcgcccggca 60
 ggggccgctg cgggctccgg gagagggtcg aaggtgaaga tctcaggacc ggagccccgc 120
 cggggtcccg ggatggtgga gggggccggg gtcggggcct gcaggatggt catggtcggg 180
 tggcagctgc gagagtgaca catggtgagc cgagcggagg tcgacgcggc cgcgaatt 238

<210> 909
 <211> 190
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(190)
 <223> n = A,T,C or G

<400> 909
 gggcgctcctg gtgcttacca cctgnaaact ggtgaggtgg tgggagaact cctggnggac 60
 cctagtggaa gccttccagt aatttcttga anctgancgc tcaggtagt agggcgacat 120
 ctggngggccg gntgttnaan gtcattgcnn anaggaagga agccgaggag gggancctgc 180
 ngtgagggcg 190

<210> 910
 <211> 93
 <212> DNA
 <213> Homo sapien

<400> 910
 tcccgcgtgca caagttcacg tccatccgcc ggaccatgtc ggaggttggg ggctctgtgg 60
 aggacctgat tgccaaaggc cccgtctcaa agt 93

<210> 911
 <211> 261
 <212> DNA
 <213> Homo sapien

<400> 911
 ggggtccgtca gggctgaaga cctgcccagg cacacaactc accacggccg gtagccatt 60
 ctogcaggtg acattcttca tggggtccag tgacacctgg gggccagct tgcagctgga 120
 gatgtgggcc tctgtgccgg tgcagtccat ggagaatggc cagtagcgct gcttcctccg 180
 tgaggcaaac atttgttaca ctttgggtatt gtatgtcctc tcccagggga agccaaacat 240
 gccgcagacc acgcgggaat t 261

<210> 912
 <211> 67
 <212> DNA
 <213> Homo sapien

<400> 912
 gcgatggagc gtgggtaggg aggggtccaca gtgtccactc gccgtgtgcg aaggttgact 60
 cggtagt 67

<210> 913
 <211> 545
 <212> DNA
 <213> Homo sapien

<400> 913

257

gctttctcct	tcttatagac	gttcgggacg	ggcatgaccg	gtccggtcag	ctgggtggcc	60
agtttcagtt	cttcagcaga	actgtctccc	ttcttggggg	ccgagggttt	cctggggaag	120
aggatgagtt	tggagcggtg	ctccttcagc	cgctgcacgt	tggcctgcag	ggactccgtg	180
gacttggtcc	gcctcctcgg	atccacagaa	atgccgatgg	tccgggccac	cttcttggtg	240
atgccggcca	ccctgagctc	ctccaggctg	aagccgcggc	cggcgcgcac	cttcgtgttg	300
taccgaaccg	tggggcagcg	cacgatgggc	cggatgggac	ccgacgcggg	gcgcggggcg	360
atgcggcgcg	ccttggtctg	ccgggcctta	cgtctgcgga	tcttacgggc	cggctgggtg	420
aaccacgtgg	ccacgcgcgg	ctgccagtcc	ttgtggaagt	ggggcttcaa	gaccatgccg	480
ttccggctgg	gcgccatggc	tgcttacggc	cctgcggctc	ctgcgcgtcg	acgcggccgc	540
gaatt						545

<210> 914

<211> 295

<212> DNA

<213> Homo sapien

<400> 914

gctcggcatc	agaccagttc	ctcagcttcc	tgaagtaacc	atagcaattg	gacttggtgt	60
aaaaccatcc	aggagcacag	ctgggtctca	tgatgatatc	acccaggact	cctgttttgg	120
ccaggcagct	cagcaatagg	agcagccgca	tgtctctgga	agccatcttc	ctcctaccct	180
gaggatgtag	ctagtgcagg	gatctcagag	accttactag	cgtctctttg	aaactcctgg	240
gttctccttg	atctgcaaat	ctgtttggca	accaaggtcg	acgcggccgc	gaatt	295

<210> 915

<211> 391

<212> DNA

<213> Homo sapien

<400> 915

gctaaacact	gtccagcgca	gggggggtgct	agggaggtag	cgtgacaaca	cgatggctgc	60
gatgcctgaa	gtgatgacca	cgatggcgga	agtgcacagag	aggatgttga	ccacgcagta	120
ctgcagagcc	accgcatctt	gaggggtgcc	cacgtagcgc	agcactgtgc	catggaacag	180
ggcagctgtg	atgaagtcca	catggcccag	caccaccagc	accaggcctg	tcttcatcag	240
caccttccgg	aagtgcacca	cactcaggcc	tccgaggcgc	agacacatgt	cggctccgcg	300
ctggtcccgc	ccccggttcc	agcgcggctc	ccgaggctgc	gggccgccgg	gggaccctgc	360
tcccatcccg	ctgtcgacgc	ggccgcgaat	t			391

<210> 916

<211> 559

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(559)

<223> n = A,T,C or G

<400> 916

gggcgtcctg	gtgcttacca	cctggaaact	ggtgaggtgg	tgggagaact	cctgggtggac	60
cctagtggaa	gccttcagtt	aatttcttga	agctgagcgc	tcagggtgagt	agggcgacat	120
ctggtggccg	gttgtgaag	gtcattgcag	agaggaagga	agccgaggag	gggagcctgc	180
agtgagggcg	tcctgggggt	ctccggttct	caccaccctt	gggccacgcc	gtctagtcca	240
cacctgagga	gttggtcagg	tagaaggggc	ggatgaccgt	gcggaagccg	ttgaagtgcc	300
ctgcggggca	ggggaaggag	gaggtgctct	tcgagctgtt	ggtgtccagg	gcactgggaa	360
tcgcagcctt	ccagccctcg	aaatcggtga	cgtctgccac	gaagagccct	tcgcagagca	420
tcagggtctt	gttttcgtag	gcaatgggtc	gatctgagcc	gccagacttg	gtgaggccca	480
ggacaggagg	ctcgtccgag	gagcaggaga	agccgtagtt	ccagcagctc	tggatggngg	540
ggangtagac	cagggacca					559

258

<210> 917
 <211> 447
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(447)
 <223> n = A,T,C or G

<400> 917
 gctccttggc gagcacgtga ccccggcggg cacgcaggag ggcaggcagg cccctgcgca 60
 ggcgctgggt ggactgcttc caggtgtcat attggaagaa cttgccacag gggatatctg 120
 ggaagtgtgc cggaagcacg gtcggagggg tcgacacgtc cctctcggac ttggcggggg 180
 tagcacagta cgtctccagg agggccaggc cacagctgcg gaaacagcac tcctcaacga 240
 tgcacaggct gcgacggctc acacggcttg cgggcctgct gaantanaag ccgcggtccc 300
 cacagacgaa ctggaggggtg tccaccagct ccccgncgca cagggtctca ctggggcggn 360
 aagcagcaat gcancacgag gcgaaggcca anaaggngan aagcaccanc atcgacttcc 420
 ccattgggat tccattgggt gtctgga 447

<210> 918
 <211> 574
 <212> DNA
 <213> Homo sapien

<400> 918
 gctccttggc gagcacgtga ccccggcggg cacgcaggag ggcaggcagg cccctgcgca 60
 ggcgctgggt ggactgcttc caggtgtcat attggaagaa cttgccacag gggatatctg 120
 ggaagtgtgc cggaagcacg gtcggagggg tcgacacgtc cctctcggac ttggcggggg 180
 tagcacagta cgtctccagg agggccaggc cacagctgcg gaaacagcac tcctcaacga 240
 tgcacaggct gcgacggctc acacggcttg cgggcctgct gaagtagaag ccgcggtccc 300
 cacagacgaa ctggaggggtg tccaccagct ccccgccgca cagggtctca ctggggcggt 360
 aagcagcaat gcagcacgag gcgaaggcca agaaggtgag aagcaccagc atcgacttcc 420
 ccattgggat tccattgggt gtctggaagc cggcgacgct gccgcccacc tccctgctgc 480
 gtgtcgcaaa ccgaacagcg ggcgttggcc ctctgcccgg aactcctct gccagcgccg 540
 ctctggccga gtcgcggggg ccgaatgtgc gacg 574

<210> 919
 <211> 139
 <212> DNA
 <213> Homo sapien

<400> 919
 gccgcgctcg tcgtcgacaa cggctccggc atgtgcaagg ccggcttcgc gggcgacgat 60
 gccccccggg ccgtcttccc ctccatcgtg gggcgcccca ggcaccaggg cgtgatggtg 120
 ggcattgggtc agaaggatt 139

<210> 920
 <211> 576
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(576)
 <223> n = A,T,C or G

```

<400> 920
ggtggacacc accctcaaga gcctgagcca gcagatcgag aacatccgga gccagaggg      60
cagccgcaag aaccccgccc gcacctgccg tgacctcaag atgtgccact ctgactggaa      120
gagtggagag tactggattg accccaacca aggctgcaac ctggatgcca tcaaagtctt      180
ctgcaacatg gagactggtg agacctgcbt gtacccact cagcccagtg tggcccagaa      240
gaactggtac atcagcaaga accccaagga caagaggcat gtctggttcg gcgagagcat      300
gaccgatgga ttccagttcg agtatggcgg ccagggtccg gacctgccg atgtggccat      360
ccagctgacc ttctgcgcc tgatgtccac cgaggcctcc cagaacatca cctaccactg      420
caagaacagc gtggcctaca tggaccagca gactggcaac ctcaagaagg ccctgctcct      480
ccagggtccg aacgagatcg agatccgcgc cgagggtcaac agccgnttca cctacagcgt      540
cactgtcgat ggnatgnacga gtcacaccgg naccct      576

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<210> 921
<211> 421
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(421)
<223> n = A,T,C or G

```

```

<400> 921
gcgcatctgc ccgccctagt cggggaagag caggaagccg gagaagacgc tgtcagagcc      60
ctggatgccc accatgtcgt agtagtcatt gacagccagc cacacctcct cgccacactg      120
caacctcagc agcacaccgc ccgagttgac ctgattgggt ttggacgtgt ggccacagaa      180
ggtgaccact ttgacgccgc tgcggtacag cagcacgcac aggttggctg tatgcgacgc      240
gtggtagaca aagtagtaga ggccggggac tttgcagggt aacttgccag tgctcgtgtc      300
ataatctccc tgcgggttgg tgaggaccgc gttgaatctg atcaggctgt tgggtgcagg      360
gggctggtgg gtctgccgag tgaccngaa cactgactgg aatttctnnt tgnatctgnc      420
c      421

```

```

<210> 922
<211> 177
<212> DNA
<213> Homo sapien

```

```

<400> 922
gacattttat gacctctccc aataggggca gaggtgagca cccctggtga aaagttaaga      60
ctcagtgagt ataaatacgc caagaagagc tgtggttctt ttactgggtg tcctcagaaa      120
ggctgtgagc agtgttgggt gcatacctgt cacagcatct agcaaagcac ctgaatt      177

```

```

<210> 923
<211> 133
<212> DNA
<213> Homo sapien

```

```

<400> 923
tccactagtc cagtgtggtg gaattcgcgg ccgcgtcgac gcgagcagcg gcggcggcgc      60
ggagagacgc agcggaggtt ttcttggttt cggacccag cgcccggtat gtgaaatcct      120
ccctgcagcg gat      133

```

```

<210> 924
<211> 216
<212> DNA
<213> Homo sapien

```

```

<400> 924

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260

gggtagagaa	ccctgcgget	gcgcttttcg	tgcccgcgag	agggcgctggg	gcgcccggca	60
ggggccgctg	cgggctccgg	gagaggggctg	aaggtgaaga	tctcaggacc	ggagcccgcg	120
cggggtcccg	ggatggtgga	gggggcccggg	gtcggggcct	gcaggatggt	catggtcggg	180
tggcagctgc	gagagtgaca	catggtgagc	cgagcg			216

<210> 925
 <211> 649
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(649)
 <223> n = A,T,C or G

<400> 925	
ggcccccaat	tccagctgcc
aaagctgatt	gaagcaaccc
cattggctgt	ggttggtgacg
tgaagtaggg	tgagtccctca
tcatggtggt	gttccacact
caggcactac	cagcaacgtc
cagcagctgc	aacctcagca
cacacttgct	ctcagttctta
cgccggtgc	gatgaggaag
gcccgaagat	cttcagaaaag
ggnctgcacc	acacagaaaag
acaccaccca	cggtgactgc
tctacttttt	ggtcgtgagc
ttgtcattgc	aacagaatgg
aaatccgtat	agttaggtgaa
cttccctgga	accataatct
cagccattgt	ggtgtacacc
ggaggaggat	gaagaagaac
agcccaggaa	accaagagca
tgacaaaactg	catggcactg
cgattgacac	ccagatgccc
tgaagaggat	catcatggt
	60
	120
	180
	240
	300
	360
	420
	480
	540
	600
	649

<210> 926
 <211> 341
 <212> DNA
 <213> Homo sapien

<400> 926	
gggtcctcaa	actctcgaat
tcatgtggca	gtttctccag
gccagaagggt	tgggcggcag
ctctggcgctc	tggtccggagg
tgcttcgggt	tccactccgg
gcgcaccaga	ccgctgctca
gtacggcgca	atgccacaat
tatggaatag	ggtcacgggg
atcttgccaa	gtcgcgtagc
ctgcggcagc	ccctcagcaa
gtccgtctga	ttccgtcgcc
ggccgcgaat	t
	60
	120
	180
	240
	300
	341

<210> 927
 <211> 431
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(431)
 <223> n = A,T,C or G

<400> 927	
gcggccgcca	cgctgggtttt
ggccaattcg	cgaagaaggt
gaagcccaga	gagaggttagg
ggctgcctcc	acgtcgggtg
agaaggagct	aaccacaaaa
gatggtcccg	gaggttgcaa
gcgtcttcag	gagacgctcg
ttccagagcc	acatcatcgc
ctgcaggtac	aaattgacca
acgaatctgg	gagctcatgg
caggtcccag	aagcaggaga
aatcggaggg	cggtcggagg
tagccctcgc	gcttctcctc
ggtcgaaata	
ggctgttgac	
ttggttgca	
tgccganaa	
ctggaagaga	
	60
	120
	180
	240
	300
	360

261

gtccccgcat ctgttccgtc caaacactgt tgaagcaaga gacagaccgc cggtcgacgc 420
ggccgcgaat t 431

<210> 928

<211> 538

<212> DNA

<213> Homo sapien

<400> 928

gtggcctgca aggccgcgga cagggcgagc accgagtcgt acattttgca gctcatcatc 60
cccgtgctct gcgtgacgca gtccatccac agccccttgt acatggcctg ggccgtgatg 120
atgttgtcac ccgcatagga gctcatctgc cactgcggga tggcggtgca ggccaccaga 180
cccacccagc ccagcagggc catggagaag ccagcaact gcaggccga attggccatt 240
tccgccctca gaaaacactg ggggcgcggg gcgggagacc ctacagtaaa acaaacgaca 300
cttggggggc agccccacaa aagaaaactt gaggtggagt tttccggtca cccaaagaga 360
caaaaagggt ttgggccagg tgaatgcaaa tcttgtcacc aaactacaca caaatcgacc 420
cctccagtga agcgatggc tgcgggcaca gggagtagga tacgccggga gggtaggtcc 480
agacaaaatt ggtggtcccc gaaggccagg cggttccctc cgggcgctct cggcgacc 538

<210> 929

<211> 69

<212> DNA

<213> Homo sapien

<400> 929

ctcctcgacc accagcttgc actggcagta gttgagcagc agcggcgtga tctgcttgtc 60
cagctggat 69

<210> 930

<211> 544

<212> DNA

<213> Homo sapien

<400> 930

gctttctcct tcttatagac gttccggagc ggcagtcagg gtccggtcag ctgggtggcc 60
agtttcagtt cttcagcaga actgtctccc ttcttggggg ccgagggtt cctggggaag 120
aggatgagtt tggagcggta ctcccttcagc cgtgcacgt tggcctgcag ggactccgtg 180
gaattgttcc gcctcctcgg atccacagaa atgccgatgg tccggggccac cttcttgtga 240
atgccggcca ccctgagctc ctccaggctg aagccgcggc cggcgcgcac cttcgtgtgg 300
taccgaaccg tggggcagcg cacgatgggc cggatgggac ccgacgcggg gcgcggggcg 360
atgccgcgcg ccttggcttg ccgggcctta cgtctgcgga tcttacgggc cggctggttg 420
aaccacgtgg ccacgcgccg ctgccagtc ttgtggaagt ggggcttcaa gaccatgcca 480
ttccggctgg gcgccatggc tgcctacggc cctgcggctc ctgcggtcga cgcggccgcg 540
aatt 544

<210> 931

<211> 596

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(596)

<223> n = A,T,C or G

<400> 931

gttgctgcag tggcttgggc gtcaggagc tcaactgagg ggccacatga cccagccag 60
tgacagtga gtggaggccg ttggggaagg aggcgttggc tgacaggagg cagatgggcc 120

262

ggatgtagcg	ggagaaggtg	atgggtctgc	tgagttggag	gagtgcgaatg	tcgccctggg	180
agccctcctg	gaggtagctg	gggtggggga	tgatgtcctt	caggggtgctg	accttggcgt	240
cctcggagta	ggagtctagc	tggtggggcc	ccagcttgac	ctcataggct	tccttgtggt	300
gctcgtctggg	gaagcagtga	gcagctgaca	gcacccactg	ctcagacacg	agagagccac	360
cacacacatg	gacgccttca	taggtgatgc	tgacctgcca	gggccactga	ccggcgactg	420
caactgctgcc	acctgtgatg	cgtgcttggg	gggccacacc	gcagggagct	tctgcccctt	480
ccgctcctgt	ccccgaccgg	agtaatccaa	gatagagcag	aatggccaca	gccccanct	540
gcccaggccc	caggaccccc	ttctggggcca	tgggccaggga	caagggcccc	tggggc	596

<210> 932

<211> 153

<212> DNA

<213> Homo sapien

<400> 932

tctgtgctgg	ggtctgggct	ccgtggagag	atgtgtaggg	gtaatgagaa	attgatcagc	60
aatgagaggt	ggactctgag	ccacctccct	gacctgaat	cattcaagcg	aggagcagag	120
gagctcttga	ctgggggacg	gggatgtgag	gat			153

<210> 933

<211> 112

<212> DNA

<213> Homo sapien

<400> 933

tcaaacttgc	cattgttaaa	agcagccaca	ttttggacct	gcagtttctt	cagaaatagt	60
taggattctg	tgctgacgcg	gccgcgaatt	ccaccacact	ggactagtgg	at	112

<210> 934

<211> 74

<212> DNA

<213> Homo sapien

<400> 934

gtggccatcg	agtccccatc	ctggtcggcc	acccggaaac	gccgctcgtc	ccgaggtcga	60
cgcgcccgcg	aatt					74

<210> 935

<211> 380

<212> DNA

<213> Homo sapien

<400> 935

gcggcccgcca	tcttggtcct	tttccaccat	tttcagcccc	tccagggctt	ggaggaccgg	60
gcggggccaca	ctcttgagac	ctcggctgaa	gtggctgggc	atgacgccgt	ttctctgacg	120
tcccccatag	atcttggtca	tggagccaac	cccagcgcca	ccccggaggt	acaggtgccg	180
cgtgtgtggaa	gcagctcgcg	tgtagaacca	gttctcatcg	tagggagcaa	gctctttgtg	240
cttggccagc	ttgacgggat	ccaccattc	ggggactttc	agcttcccgg	actttttgag	300
gaaggctgcc	agagctctga	cgaactcctg	ctggttcacg	tcttttacag	taactccagg	360
catcgtgcgg	cctccgcgcg					380

<210> 936

<211> 155

<212> DNA

<213> Homo sapien

<400> 936

ctggcgcttt	gaggatgggtg	tcttgacccc	tgattacccc	cgaaatatct	ctgacggctt	60
------------	-------------	------------	------------	------------	------------	----

cgatggcatc	cgggacaacg	tggatgcagc	cttggccctc	cctgcccata	gctacagtgg	120
cggggagcgg	gtctacttct	tcaaggggaa	acagt			155

<210> 937
 <211> 213
 <212> DNA
 <213> Homo sapien

<400> 937						
gagggcggaga	ggatcatgtc	cgggaactgc	ggggtagtag	cgatctgggt	taccagccg	60
ttgtggccct	tgaggggtgc	acgaagggtc	atctgctcag	tcatggcggc	ggcgagagcg	120
tgtgtcgctg	cagcgacgag	gatggcactg	gatggcttag	agaaactagc	accacaacct	180
ctcctgccgc	cgccgtcgac	gcggccgcga	att			213

<210> 938
 <211> 261
 <212> DNA
 <213> Homo sapien

<400> 938						
gggtccgtca	gggctgaaga	cctgcccagg	cacacaaactc	accacggccg	gtagccatt	60
ctcgcagggtg	acattcttca	tggggtcag	tgacacctgg	gggccagct	tgacgtgga	120
gatgtgggcc	tctgtgccgg	tgacgtccat	ggagaatggc	cagtagcgct	gcttcctccg	180
tgaggcaaac	atthttgtaca	ctttgggtatt	gtatgtcctc	tccccaggga	agccaaacct	240
gccgcagacc	acgcgggaat	t				261

<210> 939
 <211> 228
 <212> DNA
 <213> Homo sapien

<400> 939						
gctcaggctc	caaagccagc	aggaaagagg	tagctcgga	cgtggagccg	ccgcccaggt	60
gcgcaggac	cacctcgcc	gtcaccttag	ccaggtggct	gcttaggtcc	actgtgcgt	120
tcacgtcctc	attgatcagc	ggcggtgcct	cggaggaggc	gctgcccggc	gcgggggccc	180
aagtcceaag	caacaggagc	agaaacaagc	cggcggtctg	cgctcgga		228

<210> 940
 <211> 97
 <212> DNA
 <213> Homo sapien

<400> 940						
tccttcaagt	atgcctgggt	gctggacaag	ctgaaggcgg	agcgtgagcg	cggcattacc	60
atcgacatct	ccctctggaa	gttcgagacc	accaagt			97

<210> 941
 <211> 200
 <212> DNA
 <213> Homo sapien

<400> 941						
ggaccagggg	gcacaggctc	ccagatgata	gcccctctct	gaatgagcac	ccaggcaaca	60
cagtcggggg	ctgtgtgtag	caaacctgtc	agcagctgcc	tctgggaca	accacccct	120
tacatgctat	ctatctacca	gacaaatgaa	agctcttctt	acccatctc	ccaggcaccc	180
cccagcaagg	gctctgaatt					200

<210> 942

264

<211> 209
 <212> DNA
 <213> Homo sapien

<400> 942
 gaggcggaga ggatcatgtc cggaactgc ggggtagtag cgatctgggt taccagccg 60
 ttgtggccct tgaggggtgcc acgaagggtc atctgctcag tcatggcggc ggcgagagcg 120
 tgtgtcgtc cagcgacgag gatggcactg gatggcttag agaaactagc accacaacct 180
 ctctgccgc gtcgacgcgg ccgcgaatt 209

<210> 943
 <211> 130
 <212> DNA
 <213> Homo sapien

<400> 943
 gtaaggagcc caagaaaaag tgatgccgcc tggcagactc gccatcccc aacgacacag 60
 ggcaggacag cagaggacgt gctgggatta aacacattcc ccctcaaaaa aaaaaaaaaa 120
 aaaaaaaaaa 130

<210> 944
 <211> 563
 <212> DNA
 <213> Homo sapien

<400> 944
 gacagtcccc gtactctttg ctacgctttc ggggccggcc tcgtttccgc ttcccggtgct 60
 tgggatcccc ctctctgcag tcacgaaaac catcgctggg gaagagcttg ccatcagtgg 120
 gateccaggtc cacgtcactt ccaccggagt ctgaggagtg ggagctccga gaagcaccag 180
 tccctgcggt ggagacgtca gagctgccgg gggagggggc tcctgcgcca cagctgccgg 240
 ggtggtaggg gctggcttgc tgaccgtcgt ccagcagctc ctgggcaaag gggctgccct 300
 ggtaaaaggg ccttgggtct agggcctcct ggaaggccat gccatccttc tccagcagct 360
 caatgatcca actgagctca tcagaagagc tggaaagttag gtctcgagc tgggcatgga 420
 gttgggtccc cagaggccca aagaccagac gcagctcctc aagggcacaa ttgcagaggg 480
 tggcgccatc catgtcacat cgtgagaagt caatggcgct tgcgtcgtac ttgttcttct 540
 ccacttggtg gctgatccag tcc 563

<210> 945
 <211> 637
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(637)
 <223> n = A,T,C or G

<400> 945
 gctgagcccc ttactgctcc tcccaccaat gggctccctc acaccagga caggactaag 60
 agggagctgg cggagaatgg aggtgtcctg cagctggtgg gccagagga gaagatgggc 120
 ctcccggtgt cagactcaca gaaagagctg gcctgaccac caggcacctc actggcactg 180
 ctgaccatc ccagaaacac aatctcaggg acccgagcag ctccaaggac gagaggatac 240
 agcagacaca acctaataga gagggcgccct gcagccttaa cctccacggc cttcgatact 300
 tatgcaagcc ttgtgttgct cctgtcctca gagtcacct gcgctcatgc cttttccgca 360
 atgggttcac ctctggcagt tgccgcttca gtcttggcct tagcctcatc ttgaagtggg 420
 tagctggcgg gagagggtgg ctgcgcccc tgctggccct gaggctgcag agttgggagc 480
 aggacacctc acctgagttt catttttttt catgtccaaa ccatgcacat actatagtcc 540
 agaatcaaa cacttttgaa aagtggctgc atggccatcc tccagggcc aggaagtgc 600

265

attccaaggc cctgtttaca tggcagcana atccatc

637

<210> 946

<211> 306

<212> DNA

<213> Homo sapien

<400> 946

ggcgcgggct cctctccctt	cggtcgcccg gatcgaggc	aagcggtcc cggggaagct	60
ggcgcgtcgg ccggtaccg	cgcgagcac ttaggaaggc	gcgggtggc cagttcacag	120
ctgcccgtc caagtgggg	gagcggaatt ggagaggag	aggagggag gaaaaagagc	180
aaaagtggg gcgcttgac	cccttctctt ctccctctgc	aaagaaaagt ttccggggtt	240
gaaactggcg agtctccgcg	ccactgaagt ttccagtcag	tttcgaggtc gacgcggccg	300
cgatt			306

<210> 947

<211> 71

<212> DNA

<213> Homo sapien

<400> 947

ggtccagagc tcccagggtt	ccagggttga gtccctccag	tcccagagct cccagggttt	60
cggtttccag t			71

<210> 948

<211> 575

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(575)

<223> n = A,T,C or G

<400> 948

gcggccgccc tttttttttt	ttttgtcag caaaaatctt	tttaataaga gagtaggatc	60
cagggttagt tttttagacc	tcggctggcc cgtcgccctc	tggcacgctc gaacttccgg	120
cccttgagc ggacgtaggg	tttgggtgtg ctgtgcgggg	ttcctggggc cttgccgaaa	180
tgccggtaca cctctcgccc	cttgcgagga ccggagagca	ggacagtgcc acagccctta	240
ggggagtcca gggccagctg	gtcnaaagtg aggatcttgc	cccctgccct gaggatgcgg	300
ctgcgggccc ggctggtcac	gcgcagtgca cataccttca	gttngggtae ctccctgaacc	360
cgcacatcat cagttatggt	ccccacaacc acggccgtct	tgttttcccg gccaggaagc	420
ttcatcttcc ggtatcatccg	ggaaagggac agaggcgccc	ggttgggtgc actcataaac	480
aacctcttca acacaacctg	gttgaatgtg gagttggttc	ttctggccag aaacctgtat	540
aacttgacca acagcctcag	gtagatatcc tggct		575

<210> 949

<211> 294

<212> DNA

<213> Homo sapien

<400> 949

ggggtttcca cgtagcccac	aatgcccaca accaccatgg	gtggtgtctc tacaatggtc	60
acagcttcca ccacctcctt	cttggttcacc ttggatcccg	gcctgtcgac ttcccgcacg	120
atgtgagtca tgccagcctt	gtatcccagg aaggctgtga	ggtggaccgg cttggacggg	180
tcactcttag ggaagctctt	caccttccca cgatgcctgc	tgctgcgctt ccgaggcagg	240
aagccgaggg acccatgtct	gggagcggag aactttctgt	gagacatcac gcca	294

<210> 950
 <211> 693
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(693)
 <223> n = A,T,C or G

<400> 950
 ggcccccaat tccagctgcc acaccaccca cgggtgactgc attagttcgg atgtcataca 60
 aaagctgatt gaagcaaccc tctacttttt ggctcgtgagc cttttgcttg gtgcagggtt 120
 cattggctgt gttggtgacg ttgtcattgc aacagaatgg gggaaaggca ctgttctctt 180
 tgaagtaggg tgagtccctca aaatccgtat agttggtgaa gccacagcac ttgagccctt 240
 tcatgggtgt gttccacact tgagtgaagt cttcctggga accataatct ttcttgatgg 300
 caggcactac cagcaacgtc aggaagtgtc cagccattgt ggtgtacacc aaggcgacca 360
 cagcagctgc aacctcagca atgaagatga ggaggaggat gaagaagaac gtcacgaggg 420
 cacacttgct ctcagtttta gcaccatagc agcccaggaa accaagagca aagaccacaa 480
 cgccggctgc gatgaggaag tagccacagt tgacaaactg catggcactg gacgacagt 540
 gccgaagat cttcanaaag gatgcccat cgattgacac ccagatgcc actgccaaca 600
 gggctgcacc acacagaaag atgagcaaat tgaagaggat catcatggtc ttaatgaagc 660
 tgaagcactg catgngggt cctgttcagg gct 693

<210> 951
 <211> 607
 <212> DNA
 <213> Homo sapien

<400> 951
 gtggcctgca aggcccgga cagggcgagc accgagtcgt acattttgca gctcatcatc 60
 ccgctgtctt gcgtgacgca gtccatccac agccccttgt acatggcctg ggccgtgatg 120
 atgtttgcac ccgcatagga gctcatctgc cactgcggga tggcggtgca ggccaccaga 180
 cccacccagc ccagcagggc catggagaag ccagcgaact gcaggcccga attggccatt 240
 tocgcctca gaaaacactg ggggcgcggc gcgggagacc ctacagtaaa acaaacgaca 300
 cttggggggc agccccacaa aagaaaactt gaggtggagt tttccggtca ccaaagaga 360
 caaaaagggt ttgggccagg tgaatgcaaa tcttgtcacc aaactacaca caaatcgacc 420
 cctccagtga agcgtggcc tcgcggcaca gggagtagga tacgccgga ggggtggttc 480
 agacaaaatt ggtggtcccc gaaggccagg cggttccctc cgggcgctct cggcgaccct 540
 aggcaacaaa aagggtggagg ggccgtctgg gcgcgtttct gagcgccggc aagtcccaa 600
 gtatcct 607

<210> 952
 <211> 372
 <212> DNA
 <213> Homo sapien

<400> 952
 ggatgaggtc aaccogaagg ggtttcttga gaagcagtga cttcttcttg actttggttc 60
 tcttctttgt cagccctttt tccttggagc cagtgtccac gaagaagagt ttttcatttg 120
 gggcctctga caacaagcca ccgctcgtgc gctcctgtag ccgcacgtct tccaggaact 180
 ggtcaacctc cagccccagc ggctcctgag caagccgccc ccagccccgc ttcttatttc 240
 ttgggcctcg ccgcccgcgc ctcagcgtg ggtccaccga agtgggccc agccccagga 300
 aaccagaatc ggcctcgtt ttgagctgc gttccacc aacgccactg cctgtcgacg 360
 cggccgcgaa tt 372

<210> 953
 <211> 275

267

<212> DNA

<213> Homo sapien

<400> 953

gccatctgct	gttttttctc	agcaccttcc	gtcttttgtt	caatacttga	gacgaccctc	60
caagatgacc	tacgggctcc	tacaacattt	ttataagcaa	ctgagagaag	attcctctcc	120
tcatttgata	attcagctcc	ttgctcagtt	acagacttca	tgcaggctgc	catgtcatca	180
tatcgctcag	cctgctcggc	cagtttggcc	ttctgaacca	gctcattttt	atccatgact	240
ggatgttctg	tgtccggtcg	acgcggccgc	gaatt			275

<210> 954

<211> 189

<212> DNA

<213> Homo sapien

<400> 954

ggctcccaact	tccttctctc	gatggagaag	gcgagggtgt	ccagcagggtg	ccgtagggtcc	60
ctgaccacagc	tgaccaccac	cctgggccag	cttctgacag	tcccacctcc	cagttgctgg	120
aggggtagtg	gcctcacaga	cggccctcct	ctagatgcag	tgggccccaga	gtcgacgcgcg	180
ccgcgaatt						189

<210> 955

<211> 189

<212> DNA

<213> Homo sapien

<400> 955

gaggcggaga	ggatcatgtc	cggaactgc	ggggtagtag	cgatctgggt	taccagccg	60
ttgtggccct	tgagggtgcc	acgaagggtc	atctgctcag	tcattggcggc	ggcgagagcg	120
tgtgtcgtcg	cagcgacgag	gatggcactg	gatggcttag	agaaactagc	gtcgacgcgcg	180
ccgcgaatt						189

<210> 956

<211> 216

<212> DNA

<213> Homo sapien

<400> 956

gcgcccgcac	gtgtaggcaa	agaagcctgt	gtccggcctc	cagaccatgt	tggcccgccc	60
attcccgctg	taaccgacga	cagccttcag	acgcagccac	ccaccgctgg	cgaggaggcg	120
gcaagtgcgc	ttggcagagt	gggggctgca	gctgaccctg	gcaggcgtga	aggccttgca	180
ggaagccagg	taggtggtgc	gtggggccccc	cgaatt			216

<210> 957

<211> 62

<212> DNA

<213> Homo sapien

<400> 957

ccagtgggag	gtcccccacc	tggtagatga	acagcccctg	gagaactacc	tggtatgga	60
gt						62

<210> 958

<211> 199

<212> DNA

<213> Homo sapien

<400> 958

268

ggattcggtc	atattggaat	tgctgttcct	gatgtataca	gtgcttgtaa	aaggtttgaa	60
gaactgggag	tcaaatgtgt	gaagaaacct	gatgatggta	aaatgaaagg	cctggcattt	120
attcaagatc	ctgatggcta	ctggattgaa	atgttgaaat	ctaacaaaat	ggcaacctta	180
atgtagtgtc	gtgagaatt					199

<210> 959
 <211> 212
 <212> DNA
 <213> Homo sapien

<400> 959						
gaggcggaga	ggatcatgtc	cgggaactgc	ggggtagtag	cgatctgggt	taccagccg	60
ttgtggccct	tgaggggtgc	acgaagggtc	atctgctcag	tcatggcggc	ggcgagagcg	120
tgtgtcgtcg	cagcgacgag	gatggcactg	gatggcttag	agaaactagc	accacaacct	180
ctcctgccgc	cgcgtcgacg	cggccgcgaa	tt			212

<210> 960
 <211> 177
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(177)
 <223> n = A,T,C or G

<400> 960						
gacattttat	gacctctccc	aataggggca	gaggtgagca	cccctgggtga	aaagttaaga	60
ctcagtgtgt	ataaatacnc	caagaagagc	tgtggcttct	ttcactgggtg	tcctcagaaa	120
ggctgtgagc	agtgttggtg	gcatacctgt	cacagcatct	agcaaagcac	ctgaatt	177

<210> 961
 <211> 490
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(490)
 <223> n = A,T,C or G

<400> 961						
gggcgtcctg	gtgcttacca	cctggaaact	ggtgaggtgg	tgggagaact	cctggtggac	60
cctagtggaa	gccttccagt	aatttcttga	agctgagcgc	tcagggtgagt	agggcgacat	120
ctggtggcgc	gttgttgaag	gtcattgcag	agaggaagga	agccgaggag	gggagcctgc	180
agttagggcg	tcctgggggt	ctnccgttct	caccaccctt	gggccacgcc	gtctagtcca	240
cacctgagga	gttgggtcag	tagaaggggc	ggatgaccgt	gcggaagccg	ttgaantgcc	300
ctgccgggca	ggggaaggag	gaggtgctct	tcgagctgtt	ggtgtccagg	gcactgggaa	360
tcgcagcctt	ccagccctcg	aaatcgggtg	cgtctgccac	gaagagccct	tcgcagagca	420
tcagggtctt	gttttcgtag	gcaatggtgc	gatctgagcc	gccagacttg	gtgaggccca	480
ggacagggag						490

<210> 962
 <211> 159
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(159)
 <223> n = A,T,C or G

<400> 962
 gggtcggccc ggggtggttc gccacagcg cagcggcgga gagcggcgcc cancatgacg 60
 gcgatggcgg cgcgcgggcn gnggacagan agaagccggt gtaagctcgc gggttgctcc 120
 ggagcgggcg ggggcccggac gtcgacgcgg ccgcgaatt 159

<210> 963
 <211> 217
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(217)
 <223> n = A,T,C or G

<400> 963
 gggtagagaa ccctgcgget gcgctttcgg tgcccgcgag aggcgctggg gcgcccggca 60
 ggggcccgtg cgggctccnn gagagggctc aaggtgaaga tctcaggacc ggagccccgc 120
 cggggctccc ggatggtgga gggggccggg gtcggggcct gcaggatggt catggtcggg 180
 tggcagctgc gagagtgcac catggtgagc cgagcgt 217

<210> 964
 <211> 540
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(540)
 <223> n = A,T,C or G

<400> 964
 gtggcctgca aggcgcggga cagggcgagc accgagtcgt acattttgca gctcatcacc 60
 cccgtgctct gcgtgacgca gtccatccac agccccttgt acatggcctg ggccgtgatg 120
 atgttgtcac ccgcatagga gctcatctgc cactgcggga tggcgtgca ggccaccaga 180
 cccacccagc ccagcagggc catggagaag cccagcaact gcaggcccga attggccatt 240
 tccgccctca gaaaaactg ggggcgcggg gcgggagacc ctacagtaaa acaaacgaca 300
 cttggggggc agcccacaa aagaaaactt gaggtggagt tttccggtca ccaaagaga 360
 caaaaagggt ttgggccagg tgaatgcaaa tcttgtcacc aaactacaca caaatcgacc 420
 cctccagtga agcgatggcc tcgcggcaca gggagtagga tacgccggga ggggtggtcc 480
 aganaaaatt ggtggtcccc gaaggccagg cggttccctc cgggcgctct cggcgaccct 540

<210> 965
 <211> 321
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(321)
 <223> n = A,T,C or G

<400> 965
 gccacagtg gcttgtttcc gcagtgcgcg gccgtcagca cccaactctg gtccaccagg 60

270

acacccgcgc	agtggaaacga	gaggccgttg	aagagcgaga	cctgccaggg	ctgcgagccg	120
cgcgcgcacg	gggcgccata	ggcttcgggg	tccaagcgcg	tgctcgtttg	ggggagcagc	180
gccgcctctg	cggcccaagag	ttgcgccatc	agcagcgga	gcagcttcgc	cagagcccgg	240
gcgccagagg	cggcggagag	gtggaggtgc	ggagctctca	tggccaggat	ctgggagtn	300
ccgatangaa	ggagggaggg	g				321

<210> 966

<211> 642

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(642)

<223> n = A,T,C or G

<400> 966

ggtggacacc	accctcaaga	gcctgagcca	gcagatcgag	aacatccgga	gcccagaggg	60
cagccgcaag	aaccccgccc	gcacctgccg	tgacctcaag	atgtgccact	ctgactggaa	120
gagtggagag	tactggattg	accccaacca	aggctgcaac	ctggatgcca	tcaaagtctt	180
ctgcaacatg	gagactggtg	agacctgcgt	gtaccccaact	cagcccagtg	tggcccanaa	240
gaactggtac	atcagcaaga	accccaagga	caagaggcat	gtctggttcg	gcgagagcat	300
gaccgatgga	ttccagttcg	agtatggcgg	ccagggctcc	gaccctgccg	atgtggccat	360
ccagctgacc	ttcctgcgcc	tgatgtccac	cgaggcctcc	cagaacatca	cctaccactg	420
caagaacagc	gtggcctaca	tggaccagca	gactggcaac	ctcaagaagg	ccctgctcct	480
ccagggctcc	aacgagatcg	agatccgcgc	cgagggcaac	agccgcttca	cctacagcgt	540
cactgtcgat	ggctgcacga	gtcacaccgg	agcctggggc	aagacagtga	ttgaatacaa	600
aaccaccaag	acctcccgc	tgcccatcat	cgatgtggcc	cc		642

<210> 967

<211> 650

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(650)

<223> n = A,T,C or G

<400> 967

ggtggacacc	accctcaaga	gcctgagcca	gcagatcgag	aacatccgga	gcccagaggg	60
cagccgcaag	aaccccgccc	gcacctgccg	tgacctcaag	atgtgccact	ctgactggaa	120
gagtggagag	tactggattg	accccaacca	aggctgcaac	ctggatgcca	tcaaagtctt	180
ctgcaacatg	gagactggtg	agacctgcgt	gtaccccaact	cagcccagtg	tggcccagaa	240
gaactggtac	atcagcaaga	accccaagga	caagaggcat	gtctggttcg	gcgagagcat	300
gaccgatgga	ttccagttcg	agtatggcgg	ccagggctcc	gaccctgccg	atgtggccat	360
ccagctgacc	ttcctgcgcc	tgatgtccac	cgaggcctcc	cagaacatca	cctaccactg	420
caagaacagc	gtggcctaca	tggaccagca	gactggcaac	ctcaagaagg	ccctgctcct	480
ccagggctcc	aacgagatcg	agatccgcgc	cgagggcaac	agccgcttca	cctacagcgt	540
cactgtcgat	ggctgcacga	gtcacaccgg	nagcctgggg	caagacagtg	attgaataca	600
aaaccacca	gaccttcgc	ctgcccata	tcgatgtggc	ccccttgga		650

<210> 968

<211> 629

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(629)
 <223> n = A,T,C or G

<400> 968
 ggtggacacc accctcaaga gcctgagcca gcagatcgag aacatccgga gccagaggg 60
 cagccgcaag aaccccgccc gcacctgccg tgacctcaag atgtgccact ctgactggaa 120
 gagtggagag tactggattg accccaacca aggtgcaac ctggatgcca tcaaagtctt 180
 ctgcaacatg gagactggtg agacctgctg gtacccact cagcccagtg tggcccagaa 240
 gaactggtac atcagcaaga accccaagga caagaggcat gtctggttcg gcgagagcat 300
 gaccgatgga ttccagttcg agtatggcgg ccagggctcc gacctgccg atgtggccat 360
 ccagctgacc ttcttgccgc tgatgtccac cgaggcctcc cagaacatca cctaccactg 420
 caagaacagc gtggcctaca tggaccagca gactggcaac ctcaagaagg cctgctcct 480
 ccagggctcc aacgagatcg agatccgcgc cgagggcaac agccgcttca cctacagcgt 540
 cactgtcgat ggctgcacga gtcacaccgg naggctgggg caagacagtg attgaataca 600
 aaaccaccaa gacctccgc ctgccatc 629

<210> 969
 <211> 222
 <212> DNA
 <213> Homo sapien

<400> 969
 gaatgtcagg ggtgttgggg gctttggctg ggtcctgggt cttcgtgtag agacctggag 60
 gcgcttggtt cttggggttc tccaggattc cagcctcgta gctgatgtgc atgaggttct 120
 catccatgct ccacgggttc ttgggagtga ccgggatggg aatcccgtgt tgctttgcgt 180
 actccatcag gtcattgcgg cccttgaacc ggtttagaa tt 222

<210> 970
 <211> 79
 <212> DNA
 <213> Homo sapien

<400> 970
 gcaggggccg cctggccttg ctccgctcca cgaggaggcc gccaacgca gggccgcgac 60
 acggacggga agcaacgga 79

<210> 971
 <211> 111
 <212> DNA
 <213> Homo sapien

<400> 971
 ggaaaatgca tctaccccac ccaaccagca gcctcacttt aggtgcctt gtcccgggcg 60
 cccattcgt cagccccacg cctcctccag gatccgggcc cagctcgaat t 111

<210> 972
 <211> 609
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(609)
 <223> n = A,T,C or G

<400> 972
 ggtggacacc accctcaaga gcctgagcca gcagatcgag aacatccgga gccagaggg 60

272

cagccgcaag	aaccccgccc	gcacctgccg	tgacctcaag	atgtgccact	ctgactggaa	120
gagtggagag	tactggattg	accccaacca	aggctgcaac	ctggatgcca	tcaaagtctt	180
ctgcaacatg	gagactggtg	agacctgcgt	gtaccccaact	cagcccagtg	tggcccagaa	240
gaactggtac	atcagcaaga	accccaagga	caagaggcat	gtctggttcg	gcgagagcat	300
gaccgatgga	ttccagttcg	agtatggcgg	ccagggctcc	gaccctgccg	atgtggccat	360
ccagctgacc	ttcctgcgcc	tgatgtccac	cgaggcctcc	cagaacatca	cctaccactg	420
caagaacagc	gtggcctaca	tggaccagca	gactggcaac	ctcaagaagg	cctgctcct	480
ccagggctcc	aacgagatcg	agatccgcgc	cgagggcaac	agccgcttca	cctacagcgt	540
cactgtcgat	ggctgcacga	gtcacaccgg	nagcctgggg	caagacagtg	attgaatata	600
aaaccacca						609

<210> 973
 <211> 311
 <212> DNA
 <213> Homo sapien

<400> 973						
ggggtttcca	cgtagcccac	aatgcccaca	accaccatgg	gtgggtgtctc	tacaatggtc	60
acagcctcca	ccacctcctt	cttgttcacc	ttggatcccg	gcctgtcgac	ttcccgcacg	120
atgtgagtca	tgccagcctt	gtatcccagg	aaggctgtga	ggtggaccgg	cttggacggg	180
tcatccttag	ggaagctott	caccttccca	cgatgcctgc	tgctgcgctt	ccgaggcagg	240
aagccgaggg	acccatgtct	gggagcggag	aactttctgt	gagacatcac	gcgtcgacgc	300
ggccgcgaat	t					311

<210> 974
 <211> 180
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(180)
 <223> n = A,T,C or G

<400> 974						
gaggcgagga	ggatcatgtc	cggaactgc	ggggtagtag	cgatctgggt	taccagccg	60
ttgtggccct	tgagggtgcc	acgaagggtc	atctgctcag	tcatggcggc	ggcnagagcg	120
tgtgtcnctg	cancgacnag	gatggcactg	gatggcttag	anaaactagc	accacgtcga	180

<210> 975
 <211> 187
 <212> DNA
 <213> Homo sapien

<400> 975						
gcaccagccc	cggggactat	gtgctcagcg	tctcagagaa	ctcgcgcgtc	tcccactaca	60
tcatcaacag	cagcgccccg	cgcccgccgg	tgccaccgtc	gcccgccag	cctccgcccc	120
gggtgagccc	ctccagactc	cgaataggag	atcaagagtt	tgattcattg	cctgctttac	180
tggaatt						187

<210> 976
 <211> 59
 <212> DNA
 <213> Homo sapien

<400> 976						
ctggttcgcg	tgcatggacc	tggacgggga	cggcgccctg	tccatgttcg	agctcgagt	59

<210> 977
 <211> 66
 <212> DNA
 <213> Homo sapien

<400> 977
 ggtccagagc tcccaggttt ccaggttgca gtccctccag tcccagagct cccaggggtt 60
 cggttt 66

<210> 978
 <211> 114
 <212> DNA
 <213> Homo sapien

<400> 978
 ggagctgatg cgggaaccgg gccactcgt gtaggagcgg ctgctgaagg cccggggggcc 60
 agaggtggac accttgtagg acttctgggt caccctcga cgcggccgag aatt 114

<210> 979
 <211> 177
 <212> DNA
 <213> Homo sapien

<400> 979
 gacattttat gacctctccc aataggggca gaggtgagca cccctggtga aaagttaaga 60
 ctcaagttagt ataaatacgc caagaagagc tgtggcttct ttactggtg tctcagaaa 120
 ggctgtgagc agtggttggt gcatacctgt cacagcatct agcaaagcac ctgaatt 177

<210> 980
 <211> 188
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(188)
 <223> n = A,T,C or G

<400> 980
 ggagctgatg cgggaaccgg gccactcgt gtaggagcgg ntgctgaagg cccggggggcc 60
 agaggtggac accttgtagg acttctgggt caccctgatg gacatggtag aggctggagt 120
 ggaggcaggc gggccgaacc aggcggagat cctagaagga gcggagaagg tcgacgcggc 180
 cgcgaatt 188

<210> 981
 <211> 184
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(184)
 <223> n = A,T,C or G

<400> 981
 gggccccagg aggcggggtg ggcacaggcc atggcgaggg tggggcacia gagccccaga 60
 ccccgccggc ttgcaactga tgggctgcgg ntgggcacag gccatagtga ggggggcatg 120
 agagccccag accggggcggc ttgcaactga tgagctgcag ggcaggtcga cgcggccgag 180

aatt 184

<210> 982
<211> 98
<212> DNA
<213> Homo sapien

<400> 982
tccactagtc cagtgtggtg gaattcgcgg ccgcgtcgac cgaaccctga accctacggt 60
cccgaccgcg gggcgaggcc gggtagctgg gctgggat 98

<210> 983
<211> 425
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(425)
<223> n = A,T,C or G

<400> 983
gccggatatg gtcctgccgg tggcagccta tgggctgata ctgatggcca tgctgtggcg 60
cggcctggcc cagggcgagg gtgcgggctg gggcgcgctg ctcttcacgc tctctgatgg 120
cgtgtgggcc tgggacacct tcgcccagcc cctgcccatt gccncctgg tgatcatgac 180
cacctactat gctgcccagc tcctcatcac actgtcagcc ctcaggagcc cgggtgccaa 240
gactgactga ctagggagct tgaagggcgg gtgttcaggc cctctcctcc tgcaaggacc 300
tgggcctccc agcccagccc agcctgagaa ataccctcag cagcgaagct tcctgacgcc 360
tgtctgcagg cgcgcgtgcc gccgtcgctt ctggctgaag acgtttgagg acgatttgcg 420
gaatt 425

<210> 984
<211> 148
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(148)
<223> n = A,T,C or G

<400> 984
tcctnagcca gggagacagg gaccaggcag cacaggcctg ccagcaggag gatgccccac 60
gagacagaag acggcattgt cgattcactg tcccagggtc gtggtgggtc gacgcggccg 120
cgaattccac cacactggac tagtggtat 148

<210> 985
<211> 461
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(461)
<223> n = A,T,C or G

<400> 985
ggtggacacc accctcaaga gcctgagcca gcagatcgag aacatccgga gcccagaggg 60

275

cagccgcaag	aacccccgcc	gcacctgccg	tgacctcaag	atgtgccact	ctgactggaa	120
gagtgagag	tactggattg	acccaacca	aggctgcaac	ctggatgcca	tcaaagtctt	180
ctgcaacatg	gagactgggtg	agacctgogt	gtacccact	cagcccagtg	tggcccanaa	240
gaactggtag	atcancaaga	acccaagga	caagaggcat	gtctgggtcg	gcgagagcat	300
gaccgatgga	ttccagtctg	agtatggcgg	ccagggctcc	gacctgccc	atgtggccat	360
ccagctgacc	ttcctgcgcc	tgatgtccac	cgaggcctcc	canaacatca	cctaccactg	420
caagaacagc	gtggcctaca	tggaccanca	nactggcaac	c		461

<210> 986

<211> 138

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(138)

<223> n = A,T,C or G

<400> 986

gagcggctgc	tgaaggcccg	ggggccagag	gtggacacct	tgtangactt	ctgggtcacc	60
ctgatggaca	tggttagaggc	aggagtggag	gcaggcgggc	cgaaccaggc	ggagatccta	120
gaaggagcgg	aggtcgnc					138

<210> 987

<211> 555

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(555)

<223> n = A,T,C or G

<400> 987

gcggcgccc	ttttttttt	ttttttttag	tggtataact	atatattattg	tgccctgagag	60
gcaagggtgag	ggaaaaatct	caacagaagc	aagtttgagg	aaaatctgga	gtccccagta	120
aaaagcagga	aggtctctgc	tgtactcatc	acagaatggg	agagagggct	ctcaatagat	180
cattcccttt	gtttctcccc	tgggcttctt	gagcttctcg	aagttcttca	ggatgatgtc	240
atataacaca	gcataagcat	tgccgatctc	catgaccatc	agccggatgt	cccggtactc	300
tgccctcatcc	agctcgtgca	ccagctgccg	ataatcacc	acatggggct	gcttggctgc	360
tttagtcaact	gcatcaccac	gctcagagaa	atacttagag	atttgagtgt	ggaagccttc	420
tancttggtg	tggaggctgg	tcacagctc	aaacaccttc	tcctggacag	ccactccaaa	480
attgttacca	tcctcaatcc	gaggtatctg	cagctgcaac	caggtggtga	ccaggttgag	540
ctgctcaatg	acatc					555

<210> 988

<211> 318

<212> DNA

<213> Homo sapien

<400> 988

gacggcgccg	gcgacctacg	aacagctttg	aggaagcccc	gacagtggcg	gcgtccagtg	60
cctccgaggg	cggcgaccgc	ggctccgcag	cctctcccag	ccgctccgcc	cggttccggg	120
gagtcggctg	ggacaaaatg	gectccccctc	ccccctcagg	gcttctcggc	cgggacgctc	180
ccacggggcg	gcaagcctgc	tctgcgctcg	aggaggcgca	gcgggcgtga	ggacagtctc	240
tctcccgagc	ggaaactccc	tgctagcacg	cggcgagggc	agcgaagaag	gaccocctaag	300
tcgacgagct	cagttaca					318

<210> 989
 <211> 177
 <212> DNA
 <213> Homo sapien

<400> 989
 gacattttat gacctctccc aataggggca gaggtgagca cccctggtga aaagttaaga 60
 ctcaagtgagt ataaatacgc caagaagagc tgtgggttct ttcactggtg tcctcagaaa 120
 ggctgtgagc agtggttggtg gcataacctgt cacagcatct agcaaagcac ctgaatt 177

<210> 990
 <211> 144
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(144)
 <223> n = A,T,C or G

<400> 990
 gtgagcacc ntggtgaaaa gttaagactc agtgagtata aatacgccaa gaagagctgt 60
 ggcttctttc actggtgtcc tcagaaaggc tgtgagcagt gttggtggca tacctgtcac 120
 agcatctagc aaagcacctg aatt 144

<210> 991
 <211> 659
 <212> DNA
 <213> Homo sapien

<400> 991
 ggtggacacc accctcaaga gcctgagcca gcagatcgag aacatccgga gccagaggg 60
 cagccgcaag aaccccgccc gcacctgccg tgacctcaag atgtgccact ctgactggaa 120
 gagtggagag tactggattg accccaacca aggtgcaac ctggatgcca tcaaagtctt 180
 ctgcaacatg gagactgggtg agacctgcgt gtaccccaact cagcccagtg tggcccagaa 240
 gaactggtac atcagcaaga accccaagga caagaggcat gtctggttcg gcgagagcat 300
 gaccgatgga ttccagttcg agtatggcgg ccagggctcc gacctgccg atgtggccat 360
 ccagctgacc ttccctgcgc tgatgtccac cgaggcctcc cagaacatca cctaccactg 420
 caagaacagc gtggcctaca tggaccagca gactggcaac ctcaagaagg cctgctcct 480
 ccagggctcc aacgagatcg agatccgcgc cgagggcaac agccgcttca cctacagcgt 540
 cactgtcgat ggctgcacga gtcacaccgg agcctggggc aagacagtga ttgaatacaa 600
 aaccaccaag acctcccgcg tgcccatcat cgatgtggcc cccttggacg ttggtgccc 659

<210> 992
 <211> 226
 <212> DNA
 <213> Homo sapien

<400> 992
 tccgctgcac tgggtttgccc ggattcttgg gcttcccaca tactgcttca cattcaggaa 60
 gtttatctcc aacagcctta tttatccact gcttcttata atttaagggtg tatactccat 120
 ctcttctgt gcgcagtttg tagtagttct tacactggta gcgaaccgag tgctccacat 180
 agccatgtgc aatctcgggg ggcttcgggc agccgtcatc tgcgat 226

<210> 993
 <211> 160
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(160)

<223> n = A,T,C or G

<400> 993

ctcgtgttng	agcgnctgct	gaaggcccg	gggccanagg	nggacacctt	gtacgacttc	60
tgggtcacc	tgatggacat	ggtanangct	ggagtggagg	caggcggg	gaaccaggcg	120
gagatcctag	aaggagcga	ggtcgacgcg	gccgcgaatt			160

<210> 994

<211> 622

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(622)

<223> n = A,T,C or G

<400> 994

nagcctganc	cagcagatcg	agaacatccg	gagcccagag	ggcagccgca	agaaccccg	60
ccgcacctgc	cgtgacctca	agatgtgcc	ctctgactgg	aagagtggag	agtactggat	120
tgacccaac	caaggctgca	acctggatgc	catcaaagtc	ttctgcaaca	tgagactgg	180
tgagacctgc	gtgtaccca	ctcagcccag	tgtggcccag	aagaactgg	acatcagcaa	240
gaacccaag	gacaagaggc	atgtctggtt	cggcgagagc	atgaccgatg	gattccagtt	300
cgagtatggc	ggccagggct	ccgacctgc	cgatgtggcc	atccagctga	ccttcctgcg	360
cctgatgtcc	accgaggcct	cccagaacat	cacctaccac	tgcaagaaca	gcgtggccta	420
catggaccag	cagactggca	acctcaagaa	ggccctgctc	ctccagggct	ccaacgagat	480
cgagatccgc	gccgagggca	acagccgctt	cacctacagc	gtcactgtcg	atggctgcac	540
gagtcacacc	ggagcctggg	gcaagacagt	gattgaatac	aaaaccacca	agacctcccg	600
cctgcccatac	atcgatgtgg	cc				622

<210> 995

<211> 158

<212> DNA

<213> Homo sapien

<400> 995

aataagattt	tgccagaggg	gaaggctcga	ttgtgctgtt	aataacttaa	taatgacaaa	60
ataatgaggt	gtatatgctt	tacatgcaat	gttatatagt	gaattgttct	gattcttaat	120
tgtaagtctg	gtttttttat	ctgtaagata	attgtgtg			158

<210> 996

<211> 295

<212> DNA

<213> Homo sapien

<400> 996

cggccgcgtc	gactctcgga	gcggagacgg	caaatggcgg	acttcgacac	ctacgacgat	60
cgggcctaca	gcagcttcgg	cggcggcaga	gggtcccgcg	gcagtgtctg	tgcccatggt	120
tcccgtagcc	agaaggagtt	gccacagag	ccccctaca	cagcatacgt	aggaaatcta	180
cctttcaata	cggttcagg	cgacatagat	gctatcttta	aggatctcag	cataaggagt	240
gtacggctag	tcagagacaa	agacacagat	aaatttaaag	gattctgcta	tgtag	295

<210> 997

<211> 125

<212> DNA
<213> Homo sapien

<400> 997
cggccgccct tttttttttt ttttttaagg ttttttggt gtaagttat tcaatgcaa 60
agaatcctct ccaattttac tgaggtggct gaccacgtcc acgaccaaat ccgcctctaa 120
actgg 125

<210> 998
<211> 152
<212> DNA
<213> Homo sapien

<400> 998
gagctgatgc gggaaccggg cccactcgtg taggagcggc tgctgaaggc ccgggggcca 60
gaggtggaca ccttgtagga cttctgggtc accctgatgg acatggtaga ggctggagtg 120
gaggcaggcg ggccgaacca ggcgagatc ct 152

<210> 999
<211> 119
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(119)
<223> n = A,T,C or G

<400> 999
taaagcaacc actaaaccac ctncagcang agaaagcagc agagagctct tcanacagct 60
cagactctga cagctnngag gatgatgaag ctccctctaa gccagctggt accaccaag 119

<210> 1000
<211> 209
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(209)
<223> n = A,T,C or G

<400> 1000
ccctcnngag gcggagagga tcatgtccgg gaactgcggg gtagtagcga tctgggttac 60
ccagccgttg tggcccttga gggtgccacg aagggtcacg tgctcagtc tggcggcggc 120
gagagcgtgt gtcgctgcag cgacgaggat ggcactggat ggcttagaga aactagcacc 180
acaacctctc ctgcgtcgac gcggccgcg 209

<210> 1001
<211> 390
<212> DNA
<213> Homo sapien

<400> 1001
gtggacacca ccctcaagag cctgagccag cagatcgaga acatccggag cccagagggc 60
agccgcaaga accccgcccg cacctgccgt gacctcaaga tgtgccactc tgactggaag 120
agtggagagt actggattga cccaaccaa ggctgcaacc tggatgcat caaagtcttc 180
tgcaacatgg agactggtga gacctgcgtg taccctcactc agcccagtgt ggcccagaag 240

aactggtaca	tcagcaagaa	ccccaaggac	aagaggcatg	tctggttcgg	cgagagcatg	300
accgatggat	tccagttcga	gtatggcggc	cagggctccg	accctgccga	tgtggccatc	360
cagctgacct	tcctgcgcct	gatgtccacc				390

<210> 1002

<211> 613

<212> DNA

<213> Homo sapien

<400> 1002

gtggacacca	ccctcaagag	cctgagccag	cagatcgaga	acatccggag	cccagagggc	60
agccgcaaga	accccgcgcg	cacctgccgt	gacctcaaga	tgtgccactc	tgactggaag	120
agtggagagt	actggattga	ccccaaccaa	ggctgcaacc	tgatgccat	caaagtcttc	180
tgcaacatgg	agactggtga	gacctgcgtg	tacccactc	agcccagtg	ggcccagaag	240
aactggtaca	tcagcaagaa	ccccaaggac	aagaggcatg	tctggttcgg	cgagagcatg	300
accgatggat	tccagttcga	gtatggcggc	cagggctccg	accctgccga	tgtggccatc	360
cagctgacct	tcctgcgcct	gatgtccacc	gaggcctccc	agaacatcac	ctaccactgc	420
aagaacagcg	tggcctacat	ggaccagcag	actggcaacc	tcaagaaggc	cctgctcctc	480
cagggctcca	acgagatcga	gatccgcgcc	gagggcaaca	gccgcttcac	ctacagcgtc	540
actgtcgatg	gctgcacgag	tcacaccgga	gcctggggca	agacagtgat	tgaatacaaa	600
accaccaaga	cct					613

<210> 1003

<211> 639

<212> DNA

<213> Homo sapien

<400> 1003

gtggacacca	ccctcaagag	cctgagccag	cagatcgaga	acatccggag	cccagagggc	60
agccgcaaga	accccgcgcg	cacctgccgt	gacctcaaga	tgtgccactc	tgactggaag	120
agtggagagt	actggattga	ccccaaccaa	ggctgcaacc	tgatgccat	caaagtcttc	180
tgcaacatgg	agactggtga	gacctgcgtg	tacccactc	agcccagtg	ggcccagaag	240
aactggtaca	tcagcaagaa	ccccaaggac	aagaggcatg	tctggttcgg	cgagagcatg	300
accgatggat	tccagttcga	gtatggcggc	cagggctccg	accctgccga	tgtggccatc	360
cagctgacct	tcctgcgcct	gatgtccacc	gaggcctccc	agaacatcac	ctaccactgc	420
aagaacagcg	tggcctacat	ggaccagcag	actggcaacc	tcaagaaggc	cctgctcctc	480
cagggctcca	acgagatcga	gatccgcgcc	gagggcaaca	gccgcttcac	ctacagcgtc	540
actgtcgatg	gctgcacgag	tcacaccgga	gcctggggca	agacagtgat	tgaatacaaa	600
accaccaaga	cctccgcgct	gcccattcatc	gatgtggcc			639

<210> 1004

<211> 85

<212> DNA

<213> Homo sapien

<400> 1004

ccgttattcg	tcgtggctca	agcccggcca	cgccgccccca	agggctcctc	ccgacctccc	60
ggcctgccgc	tcaggccact	gcggg				85

<210> 1005

<211> 636

<212> DNA

<213> Homo sapien

<400> 1005

gtggacacca	ccctcaagag	cctgagccag	cagatcgaga	acatccggag	cccagagggc	60
agccgcaaga	accccgcgcg	cacctgccgt	gacctcaaga	tgtgccactc	tgactggaag	120
agtggagagt	actggattga	ccccaaccaa	ggctgcaacc	tgatgccat	caaagtcttc	180

tgcaacatgg	agactggtga	gacctgcgtg	tacccactc	agcccagtg	ggcccagaag	240
aactggtaca	tcagcaagaa	ccccaaggac	aagaggcatg	tctggttcgg	cgagagcatg	300
accgatggat	tccagttcga	gtatggcggc	cagggctccg	accctgccga	tgtggccatc	360
cagctgacct	tcctgcgcct	gatgtccacc	gaggcctccc	agaacatcac	ctaccactgc	420
aagaacagcg	tggcctacat	ggaccagcag	actggcaacc	tcaagaaggc	cctgctcctc	480
cagggctcca	acgagatcga	gatccgcgcc	gagggcaaca	gccgcttcac	ctacagcgtc	540
actgtcgatg	gctgcacgag	tcacaccgga	gcctggggca	agacagtgat	tgaatacaaa	600
accaccaaga	cctcccgct	gcccacatc	gatgtg			636

<210> 1006
 <211> 629
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(629)
 <223> n = A,T,C or G

<400> 1006		
gtggacacca	ccctcaagag cctgagccag cagatcgaga acatccggag cccagagggc 60	
agccgcaaga	accccgcccg cacctgccgt gacctcaaga tgtgccactc tgactggaag 120	
agtggagagt	actggattga cccaaccaa ggctgcaacc tggatgcat caaagtcttc 180	
tgcaacatgg	agactggtga gacctgcgtg tacccactc agcccagtg ggcccagaag 240	
aactggtaca	tcagcaagaa cccaaggac aagaggcatg tctggttcgg cgagagcatg 300	
accgatggat	tccagttcga gtatggcggc cagggctccg accctgccga tgtggccatc 360	
cagctgacct	tcctgcgcct gatgtccacc gaggcctccc agaacatcac ctaccactgc 420	
aagaacagcg	tggcctacat ggaccagcag actggcaacc tcaagaangc cctgctcctc 480	
cagggctcca	acgagatcga gatccgcgcc gagggcaaca gccgcttcac ctacagcgtc 540	
actgtcgatg	gctgcacgag tcacaccgga gcctggggca agacagtgat tgaatacaaa 600	
accaccaaga	cctcccgct gcccacatc	629

<210> 1007
 <211> 575
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(575)
 <223> n = A,T,C or G

<400> 1007		
gtggacacca	ccctcaagag cctgagccag cagatcgaga acatccggag cccagagggc 60	
agccgcaaga	accccgcccg cacctgccgt gacctcaaga tgtgccactc tgactggaag 120	
agtggagagt	actggattga cccaaccaa ggctgcaacc tggatgcat caaagtcttc 180	
tgcaacatgg	agactggtga gacctgcgtg tacccactc agcccagtg ggcccagaag 240	
aactggtaca	tcagcaagaa cccaaggac aagaggcatg tctggttcgg cgagagcatg 300	
accgatggat	tccagttcga gtatggcggc cagggctccg accctgccga tgtggccatc 360	
cagctgacct	tnctgcgcct gatgtccacc gaggcctccc agaacatcac ctaccactgc 420	
aagaacagcg	tggcctacat ggaccagcag actggcaacc tcaagaaggc cctgctcctc 480	
cagggctcca	acgagatcga gatccgcgcc gagggcaaca gccgcttcac ctacagcgtc 540	
actgtcgatg	gctgcacgag tcacaccgga gcctg	575

<210> 1008
 <211> 62
 <212> DNA
 <213> Homo sapien

<400> 1008
cgatggagcg tgggtaggga ggggccacag tgtccactcg ccgtgtgcga aggttgactc 60
gg 62

<210> 1009
<211> 180
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(180)
<223> n = A,T,C or G

<400> 1009
gagctgatgc gggaaccggg cccactcgtg taggagcggc tgctgaaggc ccggggggcca 60
gaggtggaca ccttgtagga cttctgggtc accctgatgg acatggtaga ggcaggagtg 120
gaggcaggcg ggccgaacca ggcggagatc ctanaaggag cggaggtcga cgcggccgcg 180

<210> 1010
<211> 169
<212> DNA
<213> Homo sapien

<400> 1010
gaggcggcac aggtcacgca tggccagcac ggcagccatg gcgctgcgct cgctcatgtt 60
tctcgccagg taggtctggg ccaggttctt gagtttgaag ctgctggccc cgggcacacg 120
ctcccggatg agaggcaggg cagccaggaa gcccgagatg gcctcctgg 169

<210> 1011
<211> 170
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(170)
<223> n = A,T,C or G

<400> 1011
gagctgatgc gggaaccggg cccactcgtg taggagcggc tgctgaaggc ccggggggcca 60
gaggtggaca ccttgtagga cttctgggtc accctgatgg acatggtaga ggctggagtg 120
gaggcaggcg ggccgaacca ggcggagatc ctagaaggag cggaggtcga 170

<210> 1012
<211> 344
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(344)
<223> n = A,T,C or G

<400> 1012
gtggacacca ccctcaagag cctgagccag cagatcgaga acatccggag ccagagggc 60
agccgcaaga accccgcccg cacctgccgt gacctcaaga tgtgccactc tgactggaag 120

282

agtggagagt	actggattga	ccccaaccaa	ggctgcaacc	tggatgccat	caaagtcttc	180
tgcaacatgg	agactgggtga	gacctgctgt	taccccactc	agcccagtg	nccanaanaa	240
ctggnncatc	ngcangaacc	ccnnggacan	gaggcntgtc	tggttcggcg	agagcatgac	300
cnatggattc	canttnnagt	atggnngcca	gggctccgac	cctg		344

<210> 1013
 <211> 157
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(157)
 <223> n = A,T,C or G

<400> 1013	
atagaacccc	gcccgcacct nncgtgacct caagatgtgc cactctgact ggaagagtgg 60
agagtactgg	attgacccca accaaggctg caacctggat gccatcaaag tcttctgcaa 120
catgganact	gggtgannct gcgtgtaccc cactcag 157

<210> 1014
 <211> 621
 <212> DNA
 <213> Homo sapien

<400> 1014	
gtggacacca	ccctcaagag cctgagccag cagatcgaga acatccggag cccagagggc 60
agccgcaaga	accccgcccg cacctgccgt gacctcaaga tgtgccactc tgactggaag 120
agtggagagt	actggattga ccccaaccaa ggctgcaacc tggatgccat caaagtcttc 180
tgcaacatgg	agactgggtga gacctgctgt taccccactc agcccagtg ggcccagaag 240
aactgggtaca	tcagcaagaa cccaaggac aagaggcatg tctggttcgg cgagagcatg 300
accgatggat	tccagttoga gtatggcggc cagggtccg accctgccga tgtggccatc 360
cagctgacct	tcctgcgcct gatgtccacc gaggcctccc agaacatcac ctaccactgc 420
aagaacagcg	tggcctacat ggaccagcag actggcaacc tcaagaaggc cctgctcctc 480
cagggctcca	acgagatoga gatccgcgcc gagggcaaca gccgcttcac ctacagcgtc 540
actgtcgatg	gctgcacgag tcacaccgga gcctggggca agacagtgat tgaatacaaa 600
accaccaaga	cctcccgcct g 621

<210> 1015
 <211> 104
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(104)
 <223> n = A,T,C or G

<400> 1015	
gtggacacca	ccctcaagag cctgagccag cagatcgaga acatccggag cccagagggc 60
agccgcaaga	accccgcccg cacctgccgt nctcnagatg tgcc 104

<210> 1016
 <211> 101
 <212> DNA
 <213> Homo sapien

<400> 1016

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<210> 1017
<211> 172
<212> DNA
<213> Homo sapien
```

```
<210> 1018
<211> 637
<212> DNA
<213> Homo sapien
```

```
<210> 1019
<211> 623
<212> DNA
<213> Homo sapien
```

```
<210> 1020
<211> 233
<212> DNA
<213> Homo sapien
```

```
<400> 1020
ggtagagaac cctgcggctg cgctttcggg gccgcgaga ggcgctggg cgcgccgcag      60
gggccgctgc gggctccggg agagggtcga aggtgaagat ctcaggaccg gagccccgcc      120
ggggtcccgg gatggtggag ggggccgggg tcggggccctg caggatggtc atggtcgggt      180
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ggcagctgcg agagtgacac atggtgagcc gagcggaggt cgacgcggcc gcg 233

<210> 1021
 <211> 180
 <212> DNA
 <213> Homo sapien

<400> 1021
 gagctgatgc gggaaccggg cccactcgtg taggagcggc tgctgaaggc ccggggggcca 60
 gaggtggaca ccttgttagga cttctgggtc accctgatgg acatggtaga ggaggagtg 120
 gaggcaggcg ggccgaacca ggccgagatc ctagaaggag cggaggtcga cgcggccgcg 180

<210> 1022
 <211> 636
 <212> DNA
 <213> Homo sapien

<400> 1022
 gtggacacca ccctcaagag cctgagccag cagatcgaga acatccggag cccagagggc 60
 agccgcaaga accccgcccg cacctgccgt gacctcaaga tgtgccactc tgactggaag 120
 agtggagagt actggattga ccccaaccaa ggctgcaacc tggatgccat caaagtcttc 180
 tgcaacatgg agactggtga gacctgcgtg taccctcactc agcccagtgt ggcccagaag 240
 aactggtaca tcagcaagaa ccccaaggac aagaggcatg tctggttcgg cgagagcatg 300
 accgatggat tccagttcga gtatggcggc cagggctccg accctgccga tgtggccatc 360
 cagctgacct tcctgcgcct gatgtccacc gaggcctccc agaacatcac ctaccactgc 420
 aagaacagcg tggcctacat ggaccagcag actggcaacc tcaagaaggc cctgctcctc 480
 cagggctcca acgagatcga gatccgcgcc gagggcaaca gccgcttcac ctacagcgtc 540
 actgtcgatg gctgcacgag tcacaccgga gcctggggca agacagtgat tgaatacaaa 600
 accaccaaga cctcccgcct gcccatcatc gatgtg 636

<210> 1023
 <211> 162
 <212> DNA
 <213> Homo sapien

<400> 1023
 aggcggagag gatcatgtcc gggaactgcg gggtagtagc gatctggggtt acccagccgt 60
 tgtggccctt gagggtgcca cgaaggggtca tctgctcagt catggcggcg gcgagagcgt 120
 gtgtcgctgc agcgacgagg atggcacgtc gacgcggccg cg 162

<210> 1024
 <211> 124
 <212> DNA
 <213> Homo sapien

<400> 1024
 tccactagtc cagtgtggtg gaattcgcgg ccgcgtcgac gccgagcagg aggcgccatc 60
 atgggagtgg acatccgccca taacaaggac cgaaagggtc ggcgcaagga gcccaagagc 120
 cagg 124

<210> 1025
 <211> 635
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(635)

285

<223> n = A,T,C or G

<400> 1025

gcccccaatt	ccagctgcc	caccacccac	ggtgactgca	ttagttcgga	tgtcatata	60
aagctgattg	aagcaaccct	ctactttttg	gtcgtgagcc	ttttgcttgg	tgcaggtttc	120
attggctgtg	ttggtgacgt	tgtcattgca	acagaatggg	ggaaaggcac	tgttctcttt	180
gaagtagggg	gagtcctcaa	aatccgtata	gttggggaag	ccacagcaact	tgagcccttt	240
catgggtggg	ttccacactt	gagtgaagtc	ttcctgggaa	ccataatctt	tcttgatggc	300
aggcactacc	agcaacgtca	ggaagtgtct	agccattgtg	gtgtacacca	aggcgaccac	360
agcagctgca	acctcagcaa	tgaagatgag	gaggaggatg	aagaagaacg	tcacgagggc	420
acacttgctc	tcagtcttag	caccatagca	gcccaggaaa	ccaagagcaa	agaccacaac	480
gccggctgcg	atgaggaagt	agcccacgtt	gacaaactgc	atggcactgg	acgacagtgg	540
cccgaagatc	ttcagaaagg	atgccccttc	gattgacacc	cagatgcccc	ctgccaacag	600
ggctgcacca	cacagaanga	tgagcaaatt	gaaga			635

<210> 1026

<211> 355

<212> DNA

<213> Homo sapien

<400> 1026

ccatctgtctg	ttttttctca	gcaccttcgg	tcttttgttc	aatacttgag	acgaccctcc	60
aagatgacct	acgggctcct	acaacatttt	tataagcaac	tgagagaaga	ttcctctcct	120
cattggataa	ttcagctcct	tgtcagttta	cagacttcat	gcaggctgcc	atgtcatcat	180
atcgctcagc	ctgctcgccc	agtttggcct	tctgaaccag	ctcattttta	tccatgactg	240
gatgttctgt	gtccggagtg	ggtggtggcg	gcggacggac	gggctcagca	gtctctgggc	300
ggcgggcgcg	gcagcagcgg	cgaggctgag	actctgtccc	gtcgacgcgg	ccgcg	355

<210> 1027

<211> 148

<212> DNA

<213> Homo sapien

<400> 1027

tgccaccctg	gtgcccata	ctgtggcctt	ggtgcccagg	aggggccaga	gctgggtggg	60
gctggctggt	cttctccctc	tggccctgag	cccctggctc	tggagctgcc	tgtagggggt	120
gaagggccat	cccactgcca	ttctccgg				148

<210> 1028

<211> 479

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(479)

<223> n = A,T,C or G

<400> 1028

ggcgtcctgg	tgcttaccac	ctggaaactg	gtgaggtggg	gggagaactc	ctgggtggacc	60
ctagtgggaag	ccttccagta	atctcttgaa	gctgagcgct	caggtgagta	gggcgacatc	120
tggtggccgg	ttgttgaaag	tcattgcaga	gaggaaggaa	gccgaggagg	ggagcctgca	180
gtgagggcgt	cctgggggtc	tccgggtctc	accacccttg	ggccacgcgg	tctagtccac	240
acctgaggag	ttggtcaggt	agaaggggcg	gatgaccgtg	cgggaagccgt	tgaagtgcc	300
tgccgggcag	gggaaggagg	aggtgctctt	cgagctgttg	gtgtccaggg	cactgggaat	360
cgcagccttc	cagccctcga	aatcggtgac	gtctgccacg	aagagccctt	cgcagagcat	420
cagggtcttg	ttttcgtang	caatgggtgcg	atctgagccg	ccagacttgg	tgaggccca	479

<210> 1029
 <211> 64
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(64)
 <223> n = A,T,C or G

<400> 1029
 gcgttnnatgt agttcttgag cacctcggga atgggcccct cggtcacggc tggcacogcc 60
 tggg 64

<210> 1030
 <211> 531
 <212> DNA
 <213> Homo sapien

<400> 1030
 cctgtcagag tggcactggt agaagttcca ggaaccctga actgtaaggg ttcttcatca 60
 gtgccaacag gatgacatga aatgatgtac tcagaagtgt cctggaatgg ggcccatgag 120
 atggttgtct gagagagagc ttcttgtcct acattcggcg ggtatggtct tggcctatgc 180
 cttatggggg tggccgttgt gggcgggtgt gtccgcctaa aaccatgttc ctcaaagatc 240
 atttgttgcc caacactggg ttgtgacca gaagtgccag gaagctgaat accatttcca 300
 gtgtcatacc caggggtggg gacgaaagg gtcttttgaa ctgtggaagg aacatccaag 360
 atctctgtgc catgaagatt ggggtgtgga agggttacca gttggggaag ctctgtctgtc 420
 ttttctcttc caatcagggg ctgctctctc tgattattct tcagggcaat gacataaatt 480
 gtatattcgg ttcccgggtc caggccagta atagtagcct ctgtgacacc a 531

<210> 1031
 <211> 518
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(518)
 <223> n = A,T,C or G

<400> 1031
 cctgggtggt ggagcgaatg ggccgattcc accggatcct ggagcctggt ttgaacatcc 60
 tcatccctgt gttagaccgg atccgatatg tgcagagtct caaggaaatt gtcataacg 120
 tgcctgagca gtcggctgtg actctcgaca atgtaactct gcaaatcgat ggagtccttt 180
 acctgcgcac catggaccct tacaaggcaa gctacggtgt ggaggaccct gagtatgccg 240
 tcaccagcgt agctcaaaca accatgagat cagagctcgg caaactctct ctggacaaag 300
 tcttccggga acgggagtc ctgaatgccg gcattgtgga tgccatcaac caagctgctg 360
 actgctgggg tatccgctgc ctccgttatg agatcaagga tatccatgtg ccaccccggg 420
 tgaaagagtc tatgcagatg cangtggagg cagagcggcg gaaacgggac acagttctag 480
 agtctgaggg gacccgagag tcggccatca atgtggca 518

<210> 1032
 <211> 116
 <212> DNA
 <213> Homo sapien

<400> 1032
 aaatatattat gtggaattaa ttaaaggtag ttggctatat cgctatcatt tcattctttt 60

gacattatgt gaatatatta ctggaaaata agactaataa attgttaaaa gttttt 116

<210> 1033

<211> 241

<212> DNA

<213> Homo sapien

<400> 1033

caagggcat	gatggcagga	gtaatcagag	gtgttcttgt	gttgtgataa	gggtggagag	60
gttaaaggag	ccacttatta	gtaatgttga	tagtagaatg	atggctaggg	tgacttcata	120
tgagattgtt	tgggctactg	ctcgagtg	gccgatcagg	gcgtagttg	agtttgatgc	180
tcaccctgat	cagaggattg	agtaaacggc	taggctagag	gtggctagaa	taaataaggag	240
g						241

<210> 1034

<211> 234

<212> DNA

<213> Homo sapien

<400> 1034

ccacagctgg	gcgcttcacc	cagtgggtact	ttggtgccta	ctccattgtg	gcgggcgtgt	60
ttgtgtgcct	gctggagtac	ccccggggga	agaggaagaa	gggctccacc	atggagcgct	120
ggggacagaa	gcacatgacc	gccgtggtga	agctgttcgg	gccctttacc	aggaattact	180
atgttcgggc	cgtcctgcat	ctcctgctct	cggtgcccg	cggtctcctg	ctgg	234

<210> 1035

<211> 434

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(434)

<223> n = A,T,C or G

<400> 1035

gtacaagctt	tttttttttt	tttttttttt	ttttttttng	gntacggnag	cactttttatt	60
tttccttaca	caatgacgtg	ttgctggggc	ctaattgtct	cacataacag	tanaaaacca	120
aaatttgttg	tcatntnttc	aaagaatcga	naattgcgta	caaaaaaac	cttacataaa	180
ttaanaatga	atacatttac	aggcgtaaat	gcaaaccgnt	tccaactnaa	agcaagtaac	240
agcccacggn	gttntggcca	aagacatnag	ntaanaaagg	aaactgggtc	ctacggcttg	300
gacttttcaa	ccctgacaga	cccgcaagac	aaaacaactg	gttnttgcca	gcctntanag	360
aaatcccana	acactnagcc	ctgacacgtt	aataccctgc	acanatcana	ggctgntggc	420
cacacanact	cacc					434

<210> 1036

<211> 294

<212> DNA

<213> Homo sapien

<400> 1036

aaagccatgg	gaaccagat	caccagatcc	ggagcctgac	tctagccoct	gagccacctg	60
ttgccctaac	accctgtctg	actctctccc	gctgcagcag	ccagtccctc	ctgcactcca	120
gcaactccag	ccatcagtca	tcttccagat	ccttggaag	tccagccaac	tcttctccca	180
gcctccacag	ccttggtcga	gtgtccctgt	gtacaagacc	cagtgaattc	caggtcccca	240
gaacccccac	cctaaccatg	ggccaaccac	gaacacccca	ctctccacca	ctgg	294

<210> 1037

288

<211> 547
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(547)
 <223> n = A,T,C or G

<400> 1037
 aaagatatga acagcttaat ttccogtggt attatctaatt taaaaaagaa aaacnnaaca 60
 agcnaaatgt tcaagttaaa aaaaaaacat accgggtgag caatgcacta aaattatcca 120
 catgaaaaca aatggtctgt aatcttataa accaaccatag catttactg tcaacaatgt 180
 gaaaatttaa tatcttctca aacaggcata agatgaagaa gtgctatttt ttaattgtaa 240
 aaggaaactta tgtaatgnta aaattacatt ataatttttc attccgaatt gacaaatgat 300
 ttcaaaaaca aggnatcaaa gtttgactgc aaatagtaat gcaatataat ttcataaaaa 360
 tccttcaatt tctatttttt tccttttctg tagttgacat atgaagacca cttcaatttc 420
 taaaaaaggg aaccattcca attttccctc cccaagaaaa tgtctcaca ttacaaagta 480
 gaaaaacagc cggtcataaa atgcaaaaaa aanttctgat ttatatacatg aaataatttc 540
 tagatca 547

<210> 1038
 <211> 451
 <212> DNA
 <213> Homo sapien

<400> 1038
 ccactctgcc caggagctgc cgaccatcag gacgcctgca gacatttaca gagcctttgt 60
 tgatgtttgt aatggagaat atgtccctcg caaatccatc ctgaagtctc gaagtagaga 120
 gaatagtgtg tgtagcgaca ctagtgaag cagtgtctgt gaatttgatg ataggcgggg 180
 agttttgagg agtatcagct gcgaagaagc cacttgcatg gacaccagtg agagcatttt 240
 ggaagaggaa ccacaagaaa atcaaaaagaa acttttgccc ttatcagtaa cacctgaggc 300
 tttttctgga actgttatag aaaaagaatt tgtatcacct tccttaacac cacccccagc 360
 cattgctcat ccgcactac ccactattcc agaacgaaag gaagttctgt tggaagcatc 420
 tgaagaaaact ggaaagaggg ttcaaaagtt t 451

<210> 1039
 <211> 533
 <212> DNA
 <213> Homo sapien

<400> 1039
 ccaagcccgt gcaccgtttt ttgtaaggta totctttaag cgcctgggac cccaagcgag 60
 agtccgaaat tagcagagcg ctaaaaggag gggcccgaag gcagtggggc ttgagctag 120
 aagcctcttt ttacctgctt gacaggtaat ttctgtaatt ggttgatgatt gaatttgata 180
 gggtagagaa tttaatgagg gaagctgtgt atacttccta gtaagagcta ttatatgact 240
 gattacatta acatcatatg gaaaaaaatt gtcaaaagta ctccgggaaa gcccttaaat 300
 agttggtaaa gtacagaaca catgattgtc aatatatgta aatacaggat gagctaggac 360
 agaggggccc ttctttcaca ccacttaaat tagttccac tttaaccttg ttgagattg 420
 acttctggag agttaaatgc agatagactt aactctccta agtcagggtg gactgagagc 480
 tgactgctac aataattacg gagcccaaat gcagtaaaac agcctgtttt tca 533

<210> 1040
 <211> 317
 <212> DNA
 <213> Homo sapien

<220>

```
<221> misc_feature
<222> (1)...(317)
<223> n = A,T,C or G
```

<400> 1040							
tgcctgctgg	ggattactcg	atcaaaacct	tccttcctcg	gctacttccc	ttcctcccgg		60
ggccttcctt	ttgaggagct	ggaggggtgg	ggagctagag	gccacctatg	ccagtgtcca		120
aggttactgg	gagtgtgggc	tgcccttgnt	gcctgcaccc	ttccctcttc	cctctccctc		180
tctctgggac	cactgggtac	aagagatggg	atgctccgac	agcgtctnca	attatgaaac		240
taatcttaac	ccctgtgctg	tcagataccc	tgtttctgga	gtcacatcag	tgaggaggga		300
tgtgggtaag	aggagca						317

```
<210> 1041
<211> 407
<212> DNA
<213> Homo sapien
```

```
<220>  
<221> misc_feature  
<222> (1)...(407)  
<223> n = A,T,C or G
```

<400>	1041						
ccaagacagt	ccacttacat	ggatcgtgtc	ttcaagcaat	ttgtncaa	gc	catggttgag	60
catggacatg	aactctctta	acatgtantt	ctttgggtgc	atthttgtctg	aaccacaatt		120
gtgaaggcag	ctcagccttag	tgcacaaatt	ttaactggtt	tatataaa	gc	aaataagtca	180
gcanatgggt	gaagagggtc	agaatgatat	gcaaaaacta	cttttttagag	aaacananca		240
actttttagc	aacaaattaa	atatagtatt	agattgtttac	ttacgtagat	tttattttta		300
ctatgcctta	ccaagtacat	ccttaaacaa	agtagtatgt	acatgaaatt	gcacttaacc		360
aaaactattg	tgtaaaacaa	atthtttaatt	cctcagggtt	ttaatth			407

```
<210> 1042
<211> 519
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(519)
<223> n = A,T,C or G
```

<400> 1042						
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acatcatcaa	gtaggagaag	cctgggtctc	ctcccagaga	agtgggtccct	cggccccgcc	120
ctggtgtcac	agaggctact	attactggcc	tggaaacggg	aaccgaatat	acaatttatg	180
tcattgccct	gaagaataat	cagaagagcg	agccctgat	tggaaaggaaa	aagacagacg	240
agcttcccca	actggttaacc	cttccacacc	ccaatcttca	tggaccagag	atcttggatg	300
tctcttccac	agttcaaaag	acctctttcg	tcaccacacc	tgggtatgac	actggaaatg	360
gtattacagt	tcttggcact	tctgttcagc	aaccacagtgt	tgggcaacaa	atgatctttg	420
aggaacatgg	tttttagcgg	accacaccgg	cccacaacgg	ncaccccat	aaagcatabg	480
gccaaagacc	ataccgcggc	aatgtaggac	aagaaagct			519

```
<210> 1043
<211> 294
<212> DNA
<213> Homo sapien
```

<400> 1043


```

ccatgacagc agctactgct tcacatagca gcatacgcca catgttcacc ttcaatattt    60
ttccagctctg tctatctttc tccacacagt agcagctatc atagaactct gtgaaagcag    120
ttgccagctc atatatataa tcacagagag tgtggagaaa taagtcattc aaaatctttt    180
gcagaatctc aggggaaccgt aaaatgcacc ggcctagttt ccattccttc tcatgatcca    240
aaagaatctt gggtttctcga gcagcttttt ggagcatttc ttcatcaata ttgg        294

```

```

<210> 1044
<211> 384
<212> DNA
<213> Homo sapien

```

```

<400> 1044
ccaggcgctc cttgtcggca tcagggaggg tggccttgaa ctgctcatgg gctgtgggtca    60
gtccctggat ctccctcaatg gtgtgcacaa tgaagggtgc ctgcaggtcc tccatggccc    120
cctccatcca gttgttgaag ggtgcagccc gcttggcata ctccaagtac agctgggtcaa    180
tgggtctccag cagtttctcg gtccgctcca gagcttccct tcgcttctga gttaggggccc    240
ccagattgtc ccactgggtca cagatctttt ggcaacgggc gttgacactg ggtgagtcatt    300
aatagtcacag ctctattgagc tcctgtgcga tggcggcaat ctgctccaca cggctcctggg    360
gggcagccag gtcactctcg aagg        384

```

```

<210> 1045
<211> 456
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(456)
<223> n = A,T,C or G

```

```

<400> 1045
aaaactaatg ttacaaatct gtattatcac ttgtatataa atagtatata gctgatcatt    60
aataagggtg ataagtacaa tgtattctaa aactgttaag caaaaaaaaa aaacaaanna    120
aaaatccaag tgtcctctc caccactcac gctgggtgatc actgtgctct ctgccagctg    180
cgtggagtga cgggaggagg gaatcactgt gtgtgcgaga gtgcttcaga ctcaatttcc    240
aaaataattt tcaccctctc aagcatgtaa atatacaaag atggatcctt catagaaatt    300
aaaaaatcaa tttgagctca tttogaatac agaacaagta tggcacagat ggaagtcctg    360
ccacgtttcc tttaatgatg ctgactcttg tatcacacag gccagcatga agttttcttac    420
tcagacttta caggcatttt ccgtaattca atcagt        456

```

```

<210> 1046
<211> 136
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(136)
<223> n = A,T,C or G

```

```

<400> 1046
atnatctggt tctaaacgaa agctgcngcg gaatgagagt gagccttcag agatgaaagc    60
catggctctg aaagggtggcn gggcagaagg aacctnctg tcanctaaaa gtgaggagtc    120
tcttacatct ctccat        136

```

```

<210> 1047
<211> 453
<212> DNA

```

<213> Homo sapien

<400> 1047

aaaaaaatcc	aaatgctggc	attgtccaga	aaaatttaac	aggtttat	ataattatta	60
taaagttgaa	ccgctgaaac	ttgttcaactg	aaacatttta	acttgcatta	atgctttacg	120
tctccgcatt	tatatataaa	attcacacac	aaatgaaaaat	ggaaaaactg	ccaatacctg	180
atttctgtcc	cctatttttc	cactcgcaat	catatactta	ggtacctttt	gaccccatgg	240
aaaaaaaata	tctaactgttc	agaactacca	ataacaggaa	gaagagaaat	ttttttttt	300
tttttgggaa	tgaaatgttt	cccatcatag	tggattctta	agcacgttct	ccacgtatgc	360
ggcgtgctag	ctggatgtct	tttggcataa	ttgttacacg	tttggcatgg	atagcacaca	420
ggttggtgtc	ttcaaaaagg	ccaaccagat	agg			453

<210> 1048

<211> 219

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(219)

<223> n = A,T,C or G

<400> 1048

aaaatcacaa	acnttaacgg	cagtaggcac	caccatgtaa	aagtgagctc	agacgtctct	60
aaaaaatgtt	tcctttataa	aagcacatgg	cggttgaatc	ttaaggttaa	attttaatat	120
gaaagatcct	catgaattaa	atagttgatg	caatttttaa	cgtttaattga	tataaaaaaa	180
aacaacaaaa	ttaggcttgt	aaaactgact	ttttcatta			219

<210> 1049

<211> 2465

<212> DNA

<213> Homo sapiens

<400> 1049

agcaaataat	caatttagca	ttacaaaaaa	cagggatggt	agggaaaata	gaaggagaaa	60
actctaataa	aggtgatgat	aatgaaaatt	taacctttta	attagaagta	aatgagctga	120
gtggtaaat	agacaacact	aacgaataca	atagtaatga	tggttaagaa	ttaccccagg	180
gtgaatcacg	aagttacgaa	gtcatgggaa	gtatggaaga	aaccttatgc	aatatagatg	240
acagagatgg	aaatcgcaat	gtccatttag	aatttacaga	aagagagagt	aggaaggatg	300
gagaggatga	atttgtcaaa	gaaatgagag	aggaaagaaa	atctcagaaa	ttgaagaata	360
aagaggaggt	tttaaaagcc	tccagagaag	aaaaagtgtt	gatggatgaa	ggagcagtac	420
ttaccctggc	agccgacctt	tcacagcaa	cactggatat	tagtaagcaa	tggagtaatg	480
tcttcaacat	tctgagagaa	aatgattttg	aacctaaatt	tctgtgtgaa	gttaaattag	540
cattttaaag	tgatgggtgaa	ataaagacat	tttcagatct	gcaaagcctt	agaaaatttg	600
ccagccaaaa	atcttctatg	aaagaattac	tgaagatgt	actcccacaa	aaggaagaaa	660
taaatcaagg	aggaagaaaa	tatggaattc	aagaaaaaag	ggataaaacc	ctaatagact	720
caaagcatag	agctggagaa	ataaccagtg	atggcttgag	cttcctat	cttaagaag	780
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cacgtagaca	ataaagaaatt	ccttttagtt	atttggttgg	ggactctggg	aagaaaaagt	1260
tggtgaaaca	ccaggtggtg	cacaaaaccc	aggaggaaga	ggaacagct	gtgccacaa	1320
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tcaccaaact	taagaaaaca	gaagaaaaga	aacacagaac	tctgcacaca	gaagaactaa	1500
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ctagaagtaa	atggagcaat	gtcttcaaag	ttctgctgga	aaaaggcttt	aatcctagaa	2160
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atatacctta	gcacgccagg	gtgactacaa	acaatatgct	ttcctcccc	agcatgcac	2340
caaaaatcaa	caagtaaac	gaaaatacac	ttctaccag	aaggatggac	agctaatagc	2400
gtacttgggg	atgaggagca	aggaatatta	cagatattac	ctagatgtta	ataaagggtta	2460
tgttt						2465

<210> 1050

<211> 3120

<212> DNA

<213> Homo sapiens

<400> 1050

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gcaatgaagc	cggataaat	gacaaacaag	tgtccaaagg	cccaagaagt	tactaccaa	120
agctttcaaa	caatattggt	ttatctttaa	agacacatcc	atagcatact	ttaaaaataa	180
ggaacttgaa	caaggagaac	cacaagaaaa	actaaatctt	agaggtcg	aagttgtgcc	240
cgatgtaaat	gtagcaggaa	gaaaatttgg	aatcaagtta	ctaateccctg	ttgccgatgg	300
tatgaatgaa	atgtatttga	gatgtgacca	tgagaatcaa	tacgccaat	ggatggctgc	360
ctgcagtgtg	gcacgaagg	gcaaaaccat	ggcagacagc	tcctaccagc	cagaggctct	420
caacatcctt	tcattttctga	ggatgaaaaa	caggaactct	gcctctcagg	tggttccag	480
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caaatccaaa	cagctggccg	cccgatcct	ggaggcgac	cagaacgtgg	cccatatgcc	600
cctggtcgaa	gccaaagctgc	ggttcatcca	ggcgtggcag	tcactgcctg	agtttggcct	660
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caacaaggca	agccaaaggc	gcccctcccc	agagggatcc	ctaactgtgc	cagcatgtag	1080
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cacgtgtagc	aagaacaact	cttatttcac	aaactcaggt	atgaacgaa	acgcctgtcc	1440
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 <211> 480
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<212> DNA

<213> Homo sapiens

<400> 1055

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<211> 3311

<212> DNA

<213> Homo sapiens

<400> 1056

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<212> DNA

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<400> 1057

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<210> 1059

<211> 440

<212> PRT

<213> Homo sapiens

<400> 1059

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Glu Asn Leu Thr Phe Lys Leu Glu Val Asn Glu Leu Ser Gly Lys Leu
      20              25              30

Asp Asn Thr Asn Glu Tyr Asn Ser Asn Asp Gly Lys Lys Leu Pro Gln
      35              40              45

Gly Glu Ser Arg Ser Tyr Glu Val Met Gly Ser Met Glu Glu Thr Leu
      50              55              60

Cys Asn Ile Asp Asp Arg Asp Gly Asn Arg Asn Val His Leu Glu Phe
      65              70              75              80

Thr Glu Arg Glu Ser Arg Lys Asp Gly Glu Asp Glu Phe Val Lys Glu
      85              90              95

Met Arg Glu Glu Arg Lys Phe Gln Lys Leu Lys Asn Lys Glu Glu Val
      100             105             110

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Leu Lys Ala Ser Arg Glu Glu Lys Val Leu Met Asp Glu Gly Ala Val
 115 120 125
 Leu Thr Leu Ala Ala Asp Leu Ser Ser Ala Thr Leu Asp Ile Ser Lys
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 Gln Trp Ser Asn Val Phe Asn Ile Leu Arg Glu Asn Asp Phe Glu Pro
 145 150 155 160
 Lys Phe Leu Cys Glu Val Lys Leu Ala Phe Lys Cys Asp Gly Glu Ile
 165 170 175
 Lys Thr Phe Ser Asp Leu Gln Ser Leu Arg Lys Phe Ala Ser Gln Lys
 180 185 190
 Ser Ser Met Lys Glu Leu Leu Lys Asp Val Leu Pro Gln Lys Glu Glu
 195 200 205
 Ile Asn Gln Gly Gly Arg Lys Tyr Gly Ile Gln Glu Lys Arg Asp Lys
 210 215 220
 Thr Leu Ile Asp Ser Lys His Arg Ala Gly Glu Ile Thr Ser Asp Gly
 225 230 235 240
 Leu Ser Phe Leu Phe Leu Lys Glu Val Lys Val Ala Lys Pro Glu Glu
 245 250 255
 Met Lys Asn Leu Glu Thr Gln Glu Glu Glu Phe Ser Glu Leu Glu Glu
 260 265 270
 Leu Asp Glu Glu Ala Ser Gly Met Glu Asp Asp Glu Asp Thr Ser Gly
 275 280 285
 Leu Glu Glu Glu Glu Glu Glu Pro Ser Gly Leu Glu Glu Glu Glu
 290 295 300
 Glu Glu Ala Ser Gly Leu Glu Glu Asp Glu Ala Ser Gly Leu Glu Glu
 305 310 315 320
 Glu Glu Glu Gln Thr Ser Glu Gln Asp Ser Thr Phe Gln Gly His Thr
 325 330 335
 Leu Val Asp Ala Lys His Glu Val Glu Ile Thr Ser Asp Gly Met Glu
 340 345 350
 Thr Thr Phe Ile Asp Ser Val Glu Asp Ser Glu Ser Glu Glu Glu Glu
 355 360 365
 Glu Gly Lys Ser Ser Glu Thr Gly Lys Val Lys Thr Thr Ser Leu Thr
 370 375 380
 Glu Lys Lys Ala Ser Arg Arg Gln Lys Glu Ile Pro Phe Ser Tyr Leu
 385 390 395 400
 Val Gly Asp Ser Gly Lys Lys Lys Leu Val Lys His Gln Val Val His
 405 410 415

304

Lys Thr Gln Glu Glu Glu Thr Ala Val Pro Thr Ser Gln Gly Thr
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Gly Thr Pro Cys Leu Thr Leu Cys
 435 440

<210> 1060

<211> 230

<212> PRT

<213> Homo sapiens

<400> 1060

Met Asn Glu Met Tyr Leu Arg Cys Asp His Glu Asn Gln Tyr Ala Gln
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Trp Met Ala Ala Cys Met Leu Ala Ser Lys Gly Lys Thr Met Ala Asp
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Ser Ser Tyr Gln Pro Glu Val Leu Asn Ile Leu Ser Phe Leu Arg Met
 35 40 45

Lys Asn Arg Asn Ser Ala Ser Glu Val Ala Ser Ser Leu Glu Asn Met
 50 55 60

Asp Met Asn Pro Glu Cys Phe Val Ser Pro Arg Cys Ala Lys Arg His
 65 70 75 80

Lys Ser Lys Gln Leu Ala Ala Arg Ile Leu Glu Ala His Gln Asn Val
 85 90 95

Ala Gln Met Pro Leu Val Glu Ala Lys Leu Arg Phe Ile Gln Ala Trp
 100 105 110

Gln Ser Leu Pro Glu Phe Gly Leu Thr Tyr Tyr Leu Val Arg Phe Lys
 115 120 125

Gly Ser Lys Lys Asp Asp Ile Leu Gly Val Ser Tyr Asn Arg Leu Ile
 130 135 140

Lys Ile Asp Ala Ala Thr Gly Ile Pro Val Thr Thr Trp Arg Phe Thr
 145 150 155 160

Asn Ile Lys Gln Trp Asn Val Asn Trp Glu Thr Arg Gln Val Val Ile
 165 170 175

Glu Phe Asp Gln Asn Val Phe Thr Ala Phe Thr Cys Leu Ser Ala Asp
 180 185 190

Cys Lys Ile Val His Glu Tyr Ile Gly Gly Tyr Ile Phe Leu Ser Thr
 195 200 205

Arg Ser Lys Asp Gln Asn Glu Thr Leu Asp Glu Asp Leu Phe His Lys
 210 215 220

Leu Thr Gly Gly Gln Asp
 225 230

<400> 1061

Gln Pro Pro Pro Pro Pro Pro Gln Pro Pro Gln Pro Gln Pro Gly Pro
260 265 270

306

Leu Arg Ser Val Pro Glu Pro Leu Ser Pro Val Ser Ser Leu Gln Ala
 275 280 285

Ser Val Ser Gly Ser Val Pro Gly Val Leu Gly Pro Thr Gly Gly Val
 290 295 300

Leu Asn Pro Thr Val Thr Gln
 305 310

<210> 1062

<211> 237

<212> PRT

<213> Homo sapiens

<400> 1062

Met Ala Gly Val Ser Ala Cys Ile Lys Tyr Ser Met Phe Thr Phe Asn
 5 10 15

Phe Leu Phe Trp Leu Cys Gly Ile Leu Ile Leu Ala Leu Ala Ile Trp
 20 25 30

Val Arg Val Ser Asn Asp Ser Gln Ala Ile Phe Gly Ser Glu Asp Val
 35 40 45

Gly Ser Ser Ser Tyr Val Ala Val Asp Ile Leu Ile Ala Val Gly Ala
 50 55 60

Ile Ile Met Ile Leu Gly Phe Leu Gly Cys Cys Gly Ala Ile Lys Glu
 65 70 75 80

Ser Arg Cys Met Leu Leu Leu Phe Phe Ile Gly Leu Leu Leu Ile Leu
 85 90 95

Leu Leu Gln Val Ala Thr Gly Ile Leu Gly Ala Val Phe Lys Ser Lys
 100 105 110

Ser Asp Arg Ile Val Asn Glu Thr Leu Tyr Glu Asn Thr Lys Leu Leu
 115 120 125

Ser Ala Thr Gly Glu Ser Glu Lys Gln Phe Gln Glu Ala Ile Ile Val
 130 135 140

Phe Gln Glu Glu Phe Lys Cys Cys Gly Leu Val Asn Gly Ala Ala Asp
 145 150 155 160

Trp Gly Asn Asn Phe Gln His Tyr Pro Glu Leu Cys Ala Cys Leu Asp
 165 170 175

Lys Gln Arg Pro Cys Gln Ser Tyr Asn Gly Lys Gln Val Tyr Lys Glu
 180 185 190

Thr Cys Ile Ser Phe Ile Lys Asp Phe Leu Ala Lys Asn Leu Ile Ile
 195 200 205

Val Ile Gly Ile Ser Phe Gly Leu Ala Val Ile Glu Ile Leu Gly Leu
 210 215 220

307

Val Phe Ser Met Val Leu Tyr Cys Gln Ile Gly Asn Lys
225 230 235

<210> 1063
<211> 80
<212> PRT
<213> Homo sapiens

<400> 1063
Met Ala Ala Arg Ala Leu Cys Met Leu Gly Leu Val Leu Ala Leu Leu
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Ser Ser Ser Ser Ala Glu Glu Tyr Val Gly Leu Ser Ala Asn Gln Cys
20 25 30
Ala Val Pro Ala Lys Asp Arg Val Asp Cys Gly Tyr Pro His Val Thr
35 40 45
Pro Lys Glu Cys Asn Asn Arg Gly Cys Cys Phe Asp Ser Arg Ile Pro
50 55 60
Gly Val Pro Trp Cys Phe Lys Pro Leu Gln Glu Ala Glu Cys Thr Phe
65 70 75 80

<210> 1064
<211> 323
<212> PRT
<213> Homo sapiens

<400> 1064
Met Ala Tyr Val Pro Ala Pro Gly Tyr Gln Pro Thr Tyr Asn Pro Thr
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Leu Pro Tyr Tyr Gln Pro Ile Pro Gly Gly Leu Asn Val Gly Met Ser
20 25 30
Val Tyr Ile Gln Gly Val Ala Ser Glu His Met Lys Arg Phe Phe Val
35 40 45
Asn Phe Val Val Gly Gln Asp Pro Gly Ser Asp Val Ala Phe His Phe
50 55 60
Asn Pro Arg Phe Asp Gly Trp Asp Lys Val Val Phe Asn Thr Leu Gln
65 70 75 80
Gly Gly Lys Trp Gly Ser Glu Glu Arg Lys Arg Ser Met Pro Phe Lys
85 90 95
Lys Gly Ala Ala Phe Glu Leu Val Phe Ile Val Leu Ala Glu His Tyr
100 105 110
Lys Val Val Val Asn Gly Asn Pro Phe Tyr Glu Tyr Gly His Arg Leu
115 120 125
Pro Leu Gln Met Val Thr His Leu Gln Val Asp Gly Asp Leu Gln Leu
130 135 140

308

Gln Ser Ile Asn Phe Ile Gly Gly Gln Pro Leu Arg Pro Gln Gly Pro
 145 150 155 160
 Pro Met Met Pro Pro Tyr Pro Gly Pro Gly His Cys His Gln Gln Leu
 165 170 175
 Asn Ser Leu Pro Thr Met Glu Gly Pro Pro Thr Phe Asn Pro Pro Val
 180 185 190
 Pro Tyr Phe Gly Arg Leu Gln Gly Gly Leu Thr Ala Arg Arg Thr Ile
 195 200 205
 Ile Ile Lys Gly Tyr Val Pro Pro Thr Gly Lys Ser Phe Ala Ile Asn
 210 215 220
 Phe Lys Val Gly Ser Ser Gly Asp Ile Ala Leu His Ile Asn Pro Arg
 225 230 235 240
 Met Gly Asn Gly Thr Val Val Arg Asn Ser Leu Leu Asn Gly Ser Trp
 245 250 255
 Gly Ser Glu Glu Lys Lys Ile Thr His Asn Pro Phe Gly Pro Gly Gln
 260 265 270
 Phe Phe Asp Leu Ser Ile Arg Cys Gly Leu Asp Arg Phe Lys Val Tyr
 275 280 285
 Ala Asn Gly Gln His Leu Phe Asp Phe Ala His Arg Leu Ser Ala Phe
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 Gln Arg Val Asp Thr Leu Glu Ile Gln Gly Asp Val Thr Leu Ser Tyr
 305 310 315 320
 Val Gln Ile

<210> 1065
 <211> 957
 <212> PRT
 <213> Homo sapiens

<400> 1065
 Arg Asn Arg Pro His Thr Thr Ala Phe Pro Gly Ser Thr Thr Met Pro
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 Gly Val Ser Gln Glu Ser Thr Ala Ser His Ser Ser Pro Gly Ser Thr
 20 25 30
 Asp Thr Thr Leu Ser Pro Gly Ser Thr Thr Ala Ser Ser Leu Gly Pro
 35 40 45
 Glu Ser Thr Thr Phe His Ser Gly Pro Gly Ser Thr Glu Thr Thr Leu
 50 55 60
 Leu Pro Asp Asn Thr Thr Ala Ser Gly Leu Leu Glu Ala Ser Thr Pro
 65 70 75 80

Val His Ser Ser Thr Gly Ser Pro His Thr Thr Leu Ser Pro Ala Gly
 85 90 95
 Ser Thr Thr Arg Gln Gly Glu Ser Thr Thr Phe Gln Ser Trp Pro Asn
 100 105 110
 Ser Lys Asp Thr Thr Pro Ala Pro Pro Thr Thr Thr Ser Ala Phe Val
 115 120 125
 Glu Leu Ser Thr Thr Ser His Gly Ser Pro Ser Ser Thr Pro Thr Thr
 130 135 140
 His Phe Ser Ala Ser Ser Thr Thr Leu Gly Arg Ser Glu Glu Ser Thr
 145 150 155 160
 Thr Val His Ser Ser Pro Val Ala Thr Ala Thr Thr Pro Ser Pro Ala
 165 170 175
 Arg Ser Thr Thr Ser Gly Leu Val Glu Glu Ser Thr Thr Tyr His Ser
 180 185 190
 Ser Pro Gly Ser Thr Gln Thr Met His Phe Pro Glu Ser Asp Thr Thr
 195 200 205
 Ser Gly Arg Gly Glu Glu Ser Thr Thr Ser His Ser Ser Thr Thr His
 210 215 220
 Thr Ile Ser Ser Ala Pro Ser Thr Thr Ser Ala Leu Val Glu Glu Pro
 225 230 235 240
 Thr Ser Tyr His Ser Ser Pro Gly Ser Thr Ala Thr Thr His Phe Pro
 245 250 255
 Asp Ser Ser Thr Thr Ser Gly Arg Ser Glu Glu Ser Thr Ala Ser His
 260 265 270
 Ser Asn Gln Asp Ala Thr Gly Thr Ile Val Leu Pro Ala Arg Ser Thr
 275 280 285
 Thr Ser Val Leu Leu Gly Glu Ser Thr Thr Ser Pro Ile Ser Ser Gly
 290 295 300
 Ser Met Glu Thr Thr Ala Leu Pro Gly Ser Thr Thr Thr Pro Gly Leu
 305 310 315 320
 Ser Glu Lys Ser Thr Thr Phe His Ser Ser Pro Arg Ser Pro Ala Thr
 325 330 335
 Thr Leu Ser Pro Ala Ser Thr Thr Ser Ser Gly Val Ser Glu Glu Ser
 340 345 350
 Thr Thr Ser His Ser Arg Pro Gly Ser Thr His Thr Thr Ala Phe Pro
 355 360 365
 Asp Ser Thr Thr Thr Pro Gly Leu Ser Arg His Ser Thr Thr Ser His
 370 375 380

Ser Ser Pro Gly Ser Thr Asp Thr Thr Leu Leu Pro Ala Ser Thr Thr
 385 390 395 400
 Thr Ser Gly Pro Ser Gln Glu Ser Thr Thr Ser His Ser Ser Pro Gly
 405 410 415
 Ser Thr Asp Thr Ala Leu Ser Pro Gly Ser Thr Thr Ala Leu Ser Phe
 420 425 430
 Gly Gln Glu Ser Thr Thr Phe His Ser Ser Pro Gly Ser Thr His Thr
 435 440 445
 Thr Leu Phe Pro Asp Ser Thr Thr Ser Ser Gly Ile Val Glu Ala Ser
 450 455 460
 Thr Arg Val His Ser Ser Thr Gly Ser Pro Arg Thr Thr Leu Ser Pro
 465 470 475 480
 Ala Ser Ser Thr Ser Pro Gly Leu Gln Gly Glu Ser Thr Ala Phe Gln
 485 490 495
 Thr His Pro Ala Ser Thr His Thr Thr Pro Ser Thr Pro Ser Thr Ala
 500 505 510
 Thr Ala Pro Val Glu Glu Ser Thr Thr Tyr His Arg Ser Pro Ser Ser
 515 520 525
 Thr Pro Thr Thr His Phe Pro Ala Ser Ser Thr Thr Ser Gly His Ser
 530 535 540
 Glu Lys Ser Thr Ile Phe His Ser Ser Pro Asp Ala Ser Gly Thr Thr
 545 550 555 560
 Pro Ser Ser Ala His Ser Thr Thr Ser Gly Arg Gly Glu Ser Thr Thr
 565 570 575
 Ser Arg Ile Ser Pro Gly Ser Thr Glu Ile Thr Thr Leu Pro Gly Ser
 580 585 590
 Thr Thr Thr Pro Gly Leu Ser Glu Ala Ser Thr Thr Phe Tyr Ser Ser
 595 600 605
 Pro Arg Ser Pro Thr Thr Thr Leu Ser Pro Ala Ser Met Thr Ser Leu
 610 615 620
 Gly Val Gly Glu Glu Ser Thr Thr Ser Arg Ser Gln Pro Gly Ser Thr
 625 630 635 640
 His Ser Thr Val Ser Pro Ala Ser Thr Thr Thr Pro Gly Leu Ser Glu
 645 650 655
 Glu Ser Thr Thr Val Tyr Ser Ser Ser Pro Gly Ser Thr Glu Thr Thr
 660 665 670
 Val Phe Pro Arg Ser Thr Thr Thr Ser Val Arg Gly Glu Glu Pro Thr
 675 680 685
 Thr Phe His Ser Arg Pro Ala Ser Thr His Thr Thr Leu Phe Thr Glu

311

690	695	700
Asp Ser Thr Thr Ser Gly Leu Thr Glu Glu Ser Thr Ala Phe Pro Gly 705 710 715 720		
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Asp Leu Gly Glu Glu Ser Thr Thr Phe Pro Ser Ser Ser Gly Ser Thr 740 745 750		
Gly Thr Thr Leu Ser Pro Ala Arg Ser Thr Thr Ser Gly Leu Val Gly 755 760 765		
Glu Ser Thr Pro Ser Arg Leu Ser Pro Ser Ser Thr Glu Thr Thr Thr 770 775 780		
Leu Pro Gly Ser Pro Thr Thr Pro Ser Leu Ser Glu Lys Ser Thr Thr 785 790 795 800		
Phe Tyr Thr Ser Pro Arg Ser Pro Asp Ala Thr Leu Ser Pro Ala Thr 805 810 815		
Thr Thr Ser Ser Gly Val Ser Glu Glu Ser Ser Thr Ser His Ser Gln 820 825 830		
Pro Gly Ser Thr His Thr Thr Ala Phe Pro Asp Ser Thr Thr Thr Ser 835 840 845		
Gly Leu Ser Gln Glu Pro Lys Thr Ser His Ser Ser Gln Gly Ser Thr 850 855 860		
Glu Ala Thr Leu Ser Pro Gly Ser Thr Thr Ala Ser Ser Leu Gly Gln 865 870 875 880		
Gln Ser Thr Thr Phe His Ser Ser Pro Gly Asp Thr Glu Thr Thr Leu 885 890 895		
Leu Pro Asp Asp Thr Ile Thr Ser Gly Leu Val Glu Ala Ser Thr Pro 900 905 910		
Thr His Ser Ser Thr Gly Ser Leu His Thr Thr Leu Thr Pro Ala Ser 915 920 925		
Ser Thr Ser Ala Gly Leu Gln Glu Glu Ser Thr Thr Phe Gln Ser Trp 930 935 940		
Pro Ser Ser Ser Asp Thr Thr Pro Ser Pro Pro Gly Pro 945 950 955		

<210> 1066

<211> 914

<212> PRT

<213> Homo sapiens

<400> 1066

Met Gly Pro Phe Lys Ser Ser Val Phe Ile Leu Ile Leu His Leu Leu

312

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			20					25					30		
Glu	Gly	Ile	Val	Val	Ala	Ile	Asp	Pro	Asn	Val	Pro	Glu	Asp	Glu	Thr
		35					40					45			
Leu	Ile	Gln	Gln	Ile	Lys	Asp	Met	Val	Thr	Gln	Ala	Ser	Leu	Tyr	Leu
		50					55					60			
Phe	Glu	Ala	Thr	Gly	Lys	Arg	Phe	Tyr	Phe	Lys	Asn	Val	Ala	Ile	Leu
		65					70					75			80
Ile	Pro	Glu	Thr	Trp	Lys	Thr	Lys	Ala	Asp	Tyr	Val	Arg	Pro	Lys	Leu
				85					90					95	
Glu	Thr	Tyr	Lys	Asn	Ala	Asp	Val	Leu	Val	Ala	Glu	Ser	Thr	Pro	Pro
			100					105					110		
Gly	Asn	Asp	Glu	Pro	Tyr	Thr	Glu	Gln	Met	Gly	Asn	Cys	Gly	Glu	Lys
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Gly	Glu	Arg	Ile	His	Leu	Thr	Pro	Asp	Phe	Ile	Ala	Gly	Lys	Lys	Leu
		130					135					140			
Ala	Glu	Tyr	Gly	Pro	Gln	Gly	Lys	Ala	Phe	Val	His	Glu	Trp	Ala	His
		145					150					155			160
Leu	Arg	Trp	Gly	Val	Phe	Asp	Glu	Tyr	Asn	Asn	Asp	Glu	Lys	Phe	Tyr
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Leu	Ser	Asn	Gly	Arg	Ile	Gln	Ala	Val	Arg	Cys	Ser	Ala	Gly	Ile	Thr
			180					185					190		
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		210					215					220			
Phe	Val	Leu	Gln	Ser	Arg	Gln	Thr	Glu	Lys	Ala	Ser	Ile	Met	Phe	Ala
		225					230					235			240
Gln	His	Val	Asp	Ser	Ile	Val	Glu	Phe	Cys	Thr	Glu	Gln	Asn	His	Asn
			245						250					255	
Lys	Glu	Ala	Pro	Asn	Lys	Gln	Asn	Gln	Lys	Cys	Asn	Leu	Arg	Ser	Thr
			260					265					270		
Trp	Glu	Val	Ile	Arg	Asp	Ser	Glu	Asp	Phe	Lys	Lys	Thr	Thr	Pro	Met
		275					280					285			
Thr	Thr	Gln	Pro	Pro	Asn	Pro	Thr	Phe	Ser	Leu	Leu	Gln	Ile	Gly	Gln
		290					295					300			
Arg	Ile	Val	Cys	Leu	Val	Leu	Asp	Lys	Ser	Gly	Ser	Met	Ala	Thr	Gly
		305					310					315			320

Asn Arg Leu Asn Arg Leu Asn Gln Ala Gly Gln Leu Phe Leu Leu Gln
 325 330 335
 Thr Val Glu Leu Gly Ser Trp Val Gly Met Val Thr Phe Asp Ser Ala
 340 345 350
 Ala His Val Gln Ser Glu Leu Ile Gln Ile Asn Ser Gly Ser Asp Arg
 355 360 365
 Asp Thr Leu Ala Lys Arg Leu Pro Ala Ala Ala Ser Gly Gly Thr Ser
 370 375 380
 Ile Cys Ser Gly Leu Arg Ser Ala Phe Thr Val Ile Arg Lys Lys Tyr
 385 390 395 400
 Pro Thr Asp Gly Ser Glu Ile Val Leu Leu Thr Asp Gly Glu Asp Asn
 405 410 415
 Thr Ile Ser Gly Cys Phe Asn Glu Val Lys Gln Ser Gly Ala Ile Ile
 420 425 430
 His Thr Val Ala Leu Gly Pro Ser Ala Ala Gln Glu Leu Glu Glu Leu
 435 440 445
 Ser Lys Met Thr Gly Gly Leu Gln Thr Tyr Ala Ser Asp Gln Val Gln
 450 455 460
 Asn Asn Gly Leu Ile Asp Ala Phe Gly Ala Leu Ser Ser Gly Asn Gly
 465 470 475 480
 Ala Val Ser Gln Arg Ser Ile Gln Leu Glu Ser Lys Gly Leu Thr Leu
 485 490 495
 Gln Asn Ser Gln Trp Met Asn Gly Thr Val Ile Val Asp Ser Thr Val
 500 505 510
 Gly Lys Asp Thr Leu Phe Leu Ile Thr Trp Thr Thr Gln Pro Pro Gln
 515 520 525
 Ile Leu Leu Trp Asp Pro Ser Gly Gln Lys Gln Gly Gly Phe Val Val
 530 535 540
 Asp Lys Asn Thr Lys Met Ala Tyr Leu Gln Ile Pro Gly Ile Ala Lys
 545 550 555 560
 Val Gly Thr Trp Lys Tyr Ser Leu Gln Ala Ser Ser Gln Thr Leu Thr
 565 570 575
 Leu Thr Val Thr Ser Arg Ala Ser Asn Ala Thr Leu Pro Pro Ile Thr
 580 585 590
 Val Thr Ser Lys Thr Asn Lys Asp Thr Ser Lys Phe Pro Ser Pro Leu
 595 600 605
 Val Val Tyr Ala Asn Ile Arg Gln Gly Ala Ser Pro Ile Leu Arg Ala
 610 615 620

314

Ser Val Thr Ala Leu Ile Glu Ser Val Asn Gly Lys Thr Val Thr Leu
 625 630 635 640
 Glu Leu Leu Asp Asn Gly Ala Gly Ala Asp Ala Thr Lys Asp Asp Gly
 645 650 655
 Val Tyr Ser Arg Tyr Phe Thr Thr Tyr Asp Thr Asn Gly Arg Tyr Ser
 660 665 670
 Val Lys Val Arg Ala Leu Gly Gly Val Asn Ala Ala Arg Arg Arg Val
 675 680 685
 Ile Pro Gln Gln Ser Gly Ala Leu Tyr Ile Pro Gly Trp Ile Glu Asn
 690 695 700
 Asp Glu Ile Gln Trp Asn Pro Pro Arg Pro Glu Ile Asn Lys Asp Asp
 705 710 715 720
 Val Gln His Lys Gln Val Cys Phe Ser Arg Thr Ser Ser Gly Gly Ser
 725 730 735
 Phe Val Ala Ser Asp Val Pro Asn Ala Pro Ile Pro Asp Leu Phe Pro
 740 745 750
 Pro Gly Gln Ile Thr Asp Leu Lys Ala Glu Ile His Gly Gly Ser Leu
 755 760 765
 Ile Asn Leu Thr Trp Thr Ala Pro Gly Asp Asp Tyr Asp His Gly Thr
 770 775 780
 Ala His Lys Tyr Ile Ile Arg Ile Ser Thr Ser Ile Leu Asp Leu Arg
 785 790 795 800
 Asp Lys Phe Asn Glu Ser Leu Gln Val Asn Thr Thr Ala Leu Ile Pro
 805 810 815
 Lys Glu Ala Asn Ser Glu Glu Val Phe Leu Phe Lys Pro Glu Asn Ile
 820 825 830
 Thr Phe Glu Asn Gly Thr Asp Leu Phe Ile Ala Ile Gln Ala Val Asp
 835 840 845
 Lys Val Asp Leu Lys Ser Glu Ile Ser Asn Ile Ala Arg Val Ser Leu
 850 855 860
 Phe Ile Pro Pro Gln Thr Pro Pro Glu Thr Pro Ser Pro Asp Glu Thr
 865 870 875 880
 Ser Ala Pro Cys Pro Asn Ile His Ile Asn Ser Thr Ile Pro Gly Ile
 885 890 895
 His Ile Leu Lys Ile Met Trp Lys Trp Ile Gly Glu Leu Gln Leu Ser
 900 905 910
 Ile Ala

315

<210> 1067

<211> 585

<212> PRT

<213> Homo sapiens

<400> 1067

Thr Leu Ser Pro Ala Ser Met Arg Ser Ser Ser Ile Ser Gly Glu Pro
 5 10 15

Thr Ser Leu Tyr Ser Gln Ala Glu Ser Thr His Thr Thr Ala Phe Pro
 20 25 30

Ala Ser Thr Thr Thr Ser Gly Leu Ser Gln Glu Ser Thr Thr Phe His
 35 40 45

Ser Lys Pro Gly Ser Thr Glu Thr Thr Leu Ser Pro Gly Ser Ile Thr
 50 55 60

Thr Ser Ser Phe Ala Gln Glu Phe Thr Thr Pro His Ser Gln Pro Gly
 65 70 75 80

Ser Ala Leu Ser Thr Val Ser Pro Ala Ser Thr Thr Val Pro Gly Leu
 85 90 95

Ser Glu Glu Ser Thr Thr Phe Tyr Ser Ser Pro Gly Ser Thr Glu Thr
 100 105 110

Thr Ala Phe Ser His Ser Asn Thr Met Ser Ile His Ser Gln Gln Ser
 115 120 125

Thr Pro Phe Pro Asp Ser Pro Gly Phe Thr His Thr Val Leu Pro Ala
 130 135 140

Thr Leu Thr Thr Thr Asp Ile Gly Gln Glu Ser Thr Ala Phe His Ser
 145 150 155 160

Ser Ser Asp Ala Thr Gly Thr Thr Pro Leu Pro Ala Arg Ser Thr Ala
 165 170 175

Ser Asp Leu Val Gly Glu Pro Thr Thr Phe Tyr Ile Ser Pro Ser Pro
 180 185 190

Thr Tyr Thr Thr Leu Phe Pro Ala Ser Ser Ser Thr Ser Gly Leu Thr
 195 200 205

Glu Glu Ser Thr Thr Phe His Thr Ser Pro Ser Phe Thr Ser Thr Ile
 210 215 220

Val Ser Thr Glu Ser Leu Glu Thr Leu Ala Pro Gly Leu Cys Gln Glu
 225 230 235 240

Gly Gln Ile Trp Asn Gly Lys Gln Cys Val Cys Pro Gln Gly Tyr Val
 245 250 255

Gly Tyr Gln Cys Leu Ser Pro Leu Glu Ser Phe Pro Val Glu Thr Pro
 260 265 270

Glu Lys Leu Asn Ala Thr Leu Gly Met Thr Val Lys Val Thr Tyr Arg

316

275	280	285
Asn Phe Thr Glu Lys Met 290	Asn Asp Ala Ser Ser 295	Gln Glu Tyr Gln Asn 300
Phe Ser Thr Leu Phe Lys 305	Asn Arg Met Asp Val 310	Val Val Leu Lys Gly Asp 315 320
Asn Leu Pro Gln Tyr Arg 325	Gly Val Asn Ile Arg 330	Arg Arg Leu Leu Asn Gly 335
Ser Ile Val Val Lys Asn 340	Asp Val Ile Leu Glu Ala 345	Asp Tyr Thr Leu 350
Glu Tyr Glu Glu Leu Phe 355	Glu Asn Leu Ala Glu Ile 360	Val Lys Ala Lys 365
Ile Met Asn Glu Thr Arg 370	Thr Thr Leu Leu Asp 375	Pro Asp Ser Cys Arg 380
Lys Ala Ile Leu Cys Tyr 385	Ser Glu Glu Asp Thr 390	Phe Val Asp Ser Ser 395 400
Val Thr Pro Gly Phe Asp 405	Phe Gln Glu Gln Cys 410	Thr Gln Lys Ala Ala 415
Glu Gly Tyr Thr Gln Phe 420	Tyr Tyr Val Asp Val 425	Leu Asp Gly Lys Leu 430
Ala Cys Val Asn Lys Cys 435	Thr Lys Gly Thr Lys 440	Ser Gln Met Asn Cys 445
Asn Leu Gly Thr Cys Gln 450	Leu Gln Arg Ser Gly 455	Pro Arg Cys Leu Cys 460
Pro Asn Thr Asn Thr His 465	Trp Tyr Trp Gly Glu 470	Thr Cys Glu Phe Asn 475 480
Ile Ala Lys Ser Leu Val 485	Tyr Gly Ile Val Gly 490	Ala Val Met Ala Val 495
Leu Leu Leu Ala Leu Ile 500	Ile Leu Ile Ile Leu 505	Phe Ser Leu Ser Gln 510
Arg Lys Arg His Arg Glu 515	Gln Tyr Asp Val Pro 520	Gln Glu Trp Arg Lys 525
Glu Gly Thr Pro Gly Ile 530	Phe Gln Lys Thr Ala 535	Ile Trp Glu Asp Gln 540
Asn Leu Arg Glu Ser Arg 545	Phe Gly Leu Glu Asn 550	Ala Tyr Asn Asn Phe 555 560
Arg Pro Thr Leu Glu Thr 565	Val Asp Ser Gly Thr 570	Glu Leu His Ile Gln 575
Arg Pro Glu Met Val Ala 580	Ser Thr Val 585	

318

Arg Gln Cys Ser His Ala Gly Gly Arg Pro Gly Asn Trp Arg Thr Ala
 275 280 285
 Thr Leu Cys Pro Lys Thr Cys Pro Gly Asn Leu Val Tyr Leu Glu Ser
 290 295 300
 Gly Ser Pro Cys Met Asp Thr Cys Ser His Leu Glu Val Ser Ser Leu
 305 310 315 320
 Cys Glu Glu His Arg Met Asp Gly Cys Phe Cys Pro Glu Gly Thr Val
 325 330 335
 Tyr Asp Asp Ile Gly Asp Ser Gly Cys Val Pro Val Ser Gln Cys His
 340 345 350
 Cys Arg Leu His Gly His Leu Tyr Thr Pro Gly Gln Glu Ile Thr Asn
 355 360 365
 Asp Cys Glu Gln Cys Val Cys Asn Ala Gly Arg Trp Val Cys Lys Asp
 370 375 380
 Leu Pro Cys Pro Gly Thr Cys Ala Leu Glu Gly Gly Ser His Ile Thr
 385 390 395 400
 Thr Phe Asp Gly Lys Thr Tyr Thr Phe His Gly Asp Cys Tyr Tyr Val
 405 410 415
 Leu Ala Lys Gly Asp His Asn Asp Ser Tyr Ala Leu Leu Gly Glu Leu
 420 425 430
 Ala Pro Cys Gly Ser Thr Asp Lys Gln Thr Cys Leu Lys Thr Val Val
 435 440 445
 Leu Leu Ala Asp Lys Lys Lys Asn Ala Val Val Phe Lys Ser Asp Gly
 450 455 460
 Ser Val Leu Leu Asn Gln Leu Gln Val Asn Leu Pro His Val Thr Ala
 465 470 475 480
 Ser Phe Ser Val Phe Arg Pro Ser Ser Tyr His Ile Met Val Ser Met
 485 490 495
 Ala Ile Gly Val Arg Leu Gln Val Gln Leu Ala Pro Val Met Gln Leu
 500 505 510
 Phe Val Thr Leu Asp Gln Ala Ser Gln Gly Gln Val Gln Gly Leu Cys
 515 520 525
 Gly Asn Phe Asn Gly Leu Glu Gly Asp Asp Phe Lys Thr Ala Ser Gly
 530 535 540
 Leu Val Glu Ala Thr Gly Ala Gly Phe Ala Asn Thr Trp Lys Ala Gln
 545 550 555 560
 Ser Thr Cys His Asp Lys Leu Asp Trp Leu Asp Asp Pro Cys Ser Leu
 565 570 575

Asn Ile Glu Ser Ala Asn Tyr Ala Glu His Trp Cys Ser Leu Leu Lys
 580 585 590
 Lys Thr Glu Thr Pro Phe Gly Arg Cys His Ser Ala Val Asp Pro Ala
 595 600 605
 Glu Tyr Tyr Lys Arg Cys Lys Tyr Asp Thr Cys Asn Cys Gln Asn Asn
 610 615 620
 Glu Asp Cys Leu Cys Ala Ala Leu Ser Ser Tyr Ala Arg Ala Cys Thr
 625 630 635 640
 Ala Lys Gly Val Met Leu Trp Gly Trp Arg Glu His Val Cys Asn Lys
 645 650 655
 Asp Val Gly Ser Cys Pro Asn Ser Gln Val Phe Leu Tyr Asn Leu Thr
 660 665 670
 Thr Cys Gln Gln Thr Cys Arg Ser Leu Ser Glu Ala Asp Ser His Cys
 675 680 685
 Leu Glu Gly Phe Ala Pro Val Asp Gly Cys Gly Cys Pro Asp His Thr
 690 695 700
 Phe Leu Asp Glu Lys Gly Arg Cys Val Pro Leu Ala Lys Cys Ser Cys
 705 710 715 720
 Tyr His Arg Gly Leu Tyr Leu Glu Ala Gly Asp Val Val Val Arg Gln
 725 730 735
 Glu Glu Arg Cys Val Cys Arg Asp Gly Arg Leu His Cys Arg Gln Ile
 740 745 750
 Arg Leu Ile Gly Gln Ser Cys Thr Ala Pro Lys Ile His Met Asp Cys
 755 760 765
 Ser Asn Leu Thr Ala Leu Ala Thr Ser Lys Pro Arg Ala Leu Ser Cys
 770 775 780
 Gln Thr Leu Ala Ala Gly Tyr Tyr His Thr Glu Cys Val Ser Gly Cys
 785 790 795 800
 Val Cys Pro Asp Gly Leu Met Asp Asp Gly Arg Gly Gly Cys Val Val
 805 810 815
 Glu Lys Glu Cys Pro Cys Val His Asn Asn Asp Leu Tyr Ser Ser Gly
 820 825 830
 Ala Lys Ile Lys Val Asp Cys Asn Thr Cys Thr Cys Lys Arg Gly Arg
 835 840 845
 Trp Val Cys Thr Gln Ala Val Cys His Gly Thr Cys Ser Ile Tyr Gly
 850 855 860
 Ser Gly His Tyr Ile Thr Phe Asp Gly Lys Tyr Tyr Asp Phe Asp Gly
 865 870 875 880
 His Cys Ser Tyr Val Ala Val Gln Asp Tyr Cys Gly Gln Asn Ser Ser

885

895

Leu	Gly	Ser	Phe	Ser	Ile	Ile	Thr	Glu	Asn	Val	Pro	Cys	Gly	Thr	Thr	
			900						905					910		
Gly	Val	Thr	Cys	Ser	Lys	Ala	Ile	Lys	Ile	Phe	Met	Gly	Arg	Thr	Glu	
		915					920					925				
Leu	Lys	Leu	Glu	Asp	Lys	His	Arg	Val	Val	Ile	Gln	Arg	Asp	Glu	Gly	
	930					935					940					
His	His	Val	Ala	Tyr	Thr	Thr	Arg	Glu	Val	Gly	Gln	Tyr	Leu	Val	Val	
945					950					955					960	
Glu	Ser	Ser	Thr	Gly	Ile	Ile	Val	Ile	Trp	Asp	Lys	Arg	Thr	Thr	Val	
				965					970					975		
Phe	Ile	Lys	Leu	Ala	Pro	Ser	Tyr	Lys	Gly	Thr	Val	Cys	Gly	Leu	Cys	
			980					985					990			
Gly	Asn	Phe	Asp	His	Arg	Ser	Asn	Asn	Asp	Phe	Thr	Thr	Arg	Asp	His	
		995					1000						1005			
Met	Val	Val	Ser	Ser	Glu	Leu	Asp	Phe	Gly	Asn	Ser	Trp	Lys	Glu	Ala	
	1010					1015					1020					
Pro	Thr	Cys	Pro	Asp	Val	Ser	Thr	Asn	Pro	Glu	Pro	Cys	Ser	Leu	Asn	
1025					1030					1035					1040	
Pro	His	Arg	Arg	Ser	Trp	Ala	Glu	Lys	Gln	Cys	Ser	Ile	Leu	Lys	Ser	
				1045					1050					1055		
Ser	Val	Phe	Ser	Ile	Cys	His	Ser	Lys	Val	Asp	Pro	Lys	Pro	Phe	Tyr	
			1060					1065					1070			
Glu	Ala	Cys	Val	His	Asp	Ser	Cys	Ser	Cys	Asp	Thr	Gly	Gly	Asp	Cys	
		1075					1080						1085			
Glu	Cys	Phe	Cys	Ser	Ala	Val	Ala	Ser	Tyr	Ala	Gln	Glu	Cys	Thr	Lys	
	1090					1095					1100					
Glu	Gly	Ala	Cys	Val	Phe	Trp	Arg	Thr	Pro	Asp	Leu	Cys	Pro	Ile	Phe	
1105					1110					1115					1120	
Cys	Asp	Tyr	Tyr	Asn	Pro	Pro	His	Glu	Cys	Glu	Trp	His	Tyr	Glu	Pro	
				1125					1130					1135		
Cys	Gly	Asn	Arg	Ser	Phe	Glu	Thr	Cys	Arg	Thr	Ile	Asn	Gly	Ile	His	
			1140					1145					1150			
Ser	Asn	Ile	Ser	Val	Ser	Tyr	Leu	Glu	Gly	Cys	Tyr	Pro	Arg	Cys	Pro	
	1155						1160					1165				
Lys	Asp	Arg	Pro	Ile	Tyr	Glu	Glu	Asp	Leu	Lys	Lys	Cys	Val	Thr	Ala	
	1170					1175					1180					
Asp	Lys	Cys	Gly	Cys	Tyr	Val	Glu	Asp	Thr	His	Tyr	Pro	Pro	Gly	Ala	
1185					1190					1195					1200	

321

Ser Val Pro Thr Glu Glu Thr Cys Lys Ser Cys Val Cys Thr Asn Ser
 1205 1210 1215
 Ser Gln Val Val Cys Arg Pro Glu Glu Gly Lys Ile Leu Asn Gln Thr
 1220 1225 1230
 Gln Asp Gly Ala Phe Cys Tyr Trp Glu Ile Cys Gly Pro Asn Gly Thr
 1235 1240 1245
 Val Glu Lys His Phe Asn Ile Cys Ser Ile Thr Thr Arg Pro Ser Thr
 1250 1255 1260
 Leu Thr Thr Phe Thr Thr Ile Thr Leu Pro Thr Thr Pro Thr Ser Phe
 1265 1270 1275 1280
 Thr Thr Thr Thr Thr Thr Thr Thr Pro Thr Ser Ser Thr Val Leu Ser
 1285 1290 1295
 Thr Thr Pro Lys Leu Cys Cys Leu Trp Ser Asp Trp Ile Asn Glu Asp
 1300 1305 1310
 His Pro Ser Ser Gly Ser Asp Asp Gly Asp Arg Glu Pro Phe Asp Gly
 1315 1320 1325
 Val Cys Gly Ala Pro Glu Asp Ile Glu Cys Arg Ser Val Lys Asp Pro
 1330 1335 1340
 His Leu Ser Leu Glu Gln His Gly Gln Lys Val Gln Cys Asp Val Ser
 1345 1350 1355 1360
 Val Gly Phe Ile Cys Lys Asn Glu Asp Gln Phe Gly Asn Gly Pro Phe
 1365 1370 1375
 Gly Leu Cys Tyr Asp Tyr Lys Ile Arg Val Asn Cys Cys Trp Pro Met
 1380 1385 1390
 Asp Lys Cys Ile Thr Thr Pro Ser Pro Pro Thr Thr Thr Pro Ser Pro
 1395 1400 1405
 Pro Pro Thr Thr Thr Thr Thr Leu Pro Pro Thr Thr Thr Pro Ser Pro
 1410 1415 1420
 Pro Thr Thr Thr Thr Thr Thr Pro Pro Pro Thr Thr Thr Pro Ser Pro
 1425 1430 1435 1440
 Pro Ile Thr Thr Thr Thr Thr Pro Leu Pro Thr Thr Thr Pro Ser Pro
 1445 1450 1455
 Pro Ile Ser Thr Thr Thr Thr Pro Pro Pro Thr Thr Thr Pro Ser Pro
 1460 1465 1470
 Pro Thr Thr Thr Pro Ser Pro Pro Thr Thr Thr Pro Ser Pro Pro Thr
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 1490 1495 1500

Thr Thr Pro Ile Thr Pro Pro Ala Ser Thr Thr Thr Leu Pro Pro Thr
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 Thr Thr Thr Leu Pro Pro Thr Thr Thr Pro Ser Pro Pro Thr Thr
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 Thr Thr Thr Pro Pro Pro Thr Thr Thr Pro Ser Pro Pro Thr Thr Thr
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 Thr Pro Ser Pro Pro Thr Ile Thr Thr Thr Thr Pro Pro Pro Thr Thr
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 1685 1690 1695
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 Leu Pro Pro Ser Ile Thr Pro Pro Thr Phe Ser Pro Phe Ser Thr Thr
 1765 1770 1775
 Thr Pro Thr Thr Pro Cys Val Pro Leu Cys Asn Trp Thr Gly Trp Leu
 1780 1785 1790
 Asp Ser Gly Lys Pro Asn Phe His Lys Pro Gly Gly Asp Thr Glu Leu
 1795 1800 1805
 Ile Gly Asp Val Cys Gly Pro Gly Trp Ala Ala Asn Ile Ser Cys Arg

1810	1815	1820
Ala Thr Met Tyr Pro Asp Val	Pro Ile Gly Gln Leu Gly Gln Thr Val	
1825	1830	1835 1840
Val Cys Asp Val Ser Val Gly Leu Ile Cys Lys Asn Glu Asp Gln Lys		
	1845	1850 1855
Pro Gly Gly Val Ile Pro Met Ala Phe Cys Leu Asn Tyr Glu Ile Asn		
	1860	1865 1870
Val Gln Cys Cys Glu Cys Val Thr Gln Pro Thr Thr Met Thr Thr Thr		
	1875	1880 1885
Thr Thr Glu Asn Pro Thr Pro Pro Thr Thr Thr Pro Ile Thr Thr Thr		
	1890	1895 1900
Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr		
	1905	1910 1915 1920
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	1925	1930 1935
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	1940	1945 1950
Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr		
	1955	1960 1965
Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly		
	1970	1975 1980
Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr		
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Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile		
	2005	2010 2015
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	2020	2025 2030
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	2035	2040 2045
Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr		
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Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro		
	2065	2070 2075 2080
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	2085	2090 2095
Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr		
	2100	2105 2110
Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr		
	2115	2120 2125

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 2130 2135 2140
 Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val
 2145 2150 2155 2160
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 Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr
 2180 2185 2190
 Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro
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 Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr
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 2225 2230 2235 2240
 Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro
 2245 2250 2255
 Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Thr Pro Ile Thr Thr Thr
 2260 2265 2270
 Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr
 2275 2280 2285
 Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro
 2290 2295 2300
 Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr
 2305 2310 2315 2320
 Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr
 2325 2330 2335
 Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly
 2340 2345 2350
 Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr
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 Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr
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Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro
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 Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr
 2450 2455 2460
 Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr
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 Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr
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 Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr
 2500 2505 2510
 Gly Thr Gln Thr Pro Thr Thr Thr Thr Pro Ile Thr Thr Thr Thr Val
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 Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr
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 Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro
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 Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr
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 2595 2600 2605
 Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro
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 Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr
 2625 2630 2635 2640
 Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr
 2645 2650 2655
 Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro
 2660 2665 2670
 Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr
 2675 2680 2685
 Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr
 2690 2695 2700
 Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly
 2705 2710 2715 2720
 Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr
 2725 2730 2735
 Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile

2740	2745	2750
Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln 2755 2760 2765		
Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr 2770 2775 2780		
Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr 2785 2790 2795 2800		
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Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr 2820 2825 2830		
Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr 2835 2840 2845		
Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr 2850 2855 2860		
Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr 2865 2870 2875 2880		
Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val 2885 2890 2895		
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Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr 2915 2920 2925		
Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro 2930 2935 2940		
Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr 2945 2950 2955 2960		
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Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro 2980 2985 2990		
Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr 2995 3000 3005		
Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr 3010 3015 3020		
Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro 3025 3030 3035 3040		
Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr 3045 3050 3055		

Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr
 3060 3065 3070
 Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly
 3075 3080 3085
 Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr
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 Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile
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 Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln
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 Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr
 3140 3145 3150
 Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr
 3155 3160 3165
 Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro
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 Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr
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 Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr
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 Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr
 3220 3225 3230
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 Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val
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 Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro
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 Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr
 3285 3290 3295
 Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro
 3300 3305 3310
 Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr
 3315 3320 3325
 Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr
 3330 3335 3340
 Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro
 3345 3350 3355 3360

Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr
 3365 3370 3375
 Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr
 3380 3385 3390
 Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro
 3395 3400 3405
 Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr
 3410 3415 3420
 Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr
 3425 3430 3435 3440
 Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly
 3445 3450 3455
 Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr
 3460 3465 3470
 Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile
 3475 3480 3485
 Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln
 3490 3495 3500
 Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Val Thr Pro Thr
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 Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr
 3525 3530 3535
 Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro
 3540 3545 3550
 Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr
 3555 3560 3565
 Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr
 3570 3575 3580
 Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr
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 Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr
 3605 3610 3615
 Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val
 3620 3625 3630
 Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro
 3635 3640 3645
 Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr
 3650 3655 3660
 Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro

3665	3670	3675	3680
Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr	3685	3690	3695
Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr	3700	3705	3710
Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro	3715	3720	3725
Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr	3730	3735	3740
Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr	3745	3750	3755
Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro	3765	3770	3775
Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr	3780	3785	3790
Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr	3795	3800	3805
Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly	3810	3815	3820
Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr	3825	3830	3835
Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile	3845	3850	3855
Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln	3860	3865	3870
Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr	3875	3880	3885
Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr	3890	3895	3900
Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro	3905	3910	3915
Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr	3925	3930	3935
Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr	3940	3945	3950
Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr	3955	3960	3965
Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr	3970	3975	3980

Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val
 3985 3990 3995 4000
 Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro
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 Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr
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 4050 4055 4060
 Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr
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 Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro
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 Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr
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 Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr
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 Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr
 4165 4170 4175
 Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly
 4180 4185 4190
 Thr Gln Thr Gly Pro Pro Thr His Thr Ser Thr Ala Pro Ile Ala Glu
 4195 4200 4205
 Leu Thr Thr Ser Asn Pro Pro Pro Glu Ser Ser Thr Pro Gln Thr Ser
 4210 4215 4220
 Arg Ser Thr Ser Ser Pro Leu Thr Glu Ser Thr Thr Leu Leu Ser Thr
 4225 4230 4235 4240
 Leu Pro Pro Ala Ile Glu Met Thr Ser Thr Ala Pro Pro Ser Thr Pro
 4245 4250 4255
 Thr Ala Pro Thr Thr Thr Ser Gly Gly His Thr Leu Ser Pro Pro Pro
 4260 4265 4270
 Ser Thr Thr Thr Ser Pro Pro Gly Thr Pro Thr Arg Gly Thr Thr Thr
 4275 4280 4285

Gly Ser Ser Ser Ala Pro Thr Pro Ser Thr Val Gln Thr Thr Thr Thr
 4290 4295 4300
 Ser Ala Trp Thr Pro Thr Pro Thr Pro Leu Ser Thr Pro Ser Ile Ile
 4305 4310 4315 4320
 Arg Thr Thr Gly Leu Arg Pro Tyr Pro Ser Ser Val Leu Ile Cys Cys
 4325 4330 4335
 Val Leu Asn Asp Thr Tyr Tyr Ala Pro Gly Glu Glu Val Tyr Asn Gly
 4340 4345 4350
 Thr Tyr Gly Asp Thr Cys Tyr Phe Val Asn Cys Ser Leu Ser Cys Thr
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 Leu Glu Phe Tyr Asn Trp Ser Cys Pro Ser Thr Pro Ser Pro Thr Pro
 4370 4375 4380
 Thr Pro Ser Lys Ser Thr Pro Thr Pro Ser Lys Pro Ser Ser Thr Pro
 4385 4390 4395 4400
 Ser Lys Pro Thr Pro Gly Thr Lys Pro Pro Glu Cys Pro Asp Phe Asp
 4405 4410 4415
 Pro Pro Arg Gln Glu Asn Glu Thr Trp Trp Leu Cys Asp Cys Phe Met
 4420 4425 4430
 Ala Thr Cys Lys Tyr Asn Asn Thr Val Glu Ile Val Lys Val Glu Cys
 4435 4440 4445
 Glu Pro Pro Pro Met Pro Thr Cys Ser Asn Gly Leu Gln Pro Val Arg
 4450 4455 4460
 Val Glu Asp Pro Asp Gly Cys Cys Trp His Trp Glu Cys Asp Cys Tyr
 4465 4470 4475 4480
 Cys Thr Gly Trp Gly Asp Pro His Tyr Val Thr Phe Asp Gly Leu Tyr
 4485 4490 4495
 Tyr Ser Tyr Gln Gly Asn Cys Thr Tyr Val Leu Val Glu Glu Ile Ser
 4500 4505 4510
 Pro Ser Val Asp Asn Phe Gly Val Tyr Ile Asp Asn Tyr His Cys Asp
 4515 4520 4525
 Pro Asn Asp Lys Val Ser Cys Pro Arg Thr Leu Ile Val Arg His Glu
 4530 4535 4540
 Thr Gln Glu Val Leu Ile Lys Thr Val His Met Met Pro Met Gln Val
 4545 4550 4555 4560
 Gln Val Gln Val Asn Arg Gln Ala Val Ala Leu Pro Tyr Lys Lys Tyr
 4565 4570 4575
 Gly Leu Glu Val Tyr Gln Ser Gly Ile Asn Tyr Val Val Asp Ile Pro
 4580 4585 4590
 Glu Leu Gly Val Leu Val Ser Tyr Asn Gly Leu Ser Phe Ser Val Arg

4595	4600	4605
Leu Pro Tyr His Arg Phe Gly Asn Asn Thr Lys Gly Gln Cys Gly Thr 4610	4615	4620
Cys Thr Asn Thr Thr Ser Asp Asp Cys Ile Leu Pro Ser Gly Glu Ile 4625	4630	4635 4640
Val Ser Asn Cys Glu Ala Ala Ala Asp Gln Trp Leu Val Asn Asp Pro 4645	4650	4655
Ser Lys Pro His Cys Pro His Ser Ser Ser Thr Thr Lys Arg Pro Ala 4660	4665	4670
Val Thr Val Pro Gly Gly Gly Lys Thr Thr Pro His Lys Asp Cys Thr 4675	4680	4685
Pro Ser Pro Leu Cys Gln Leu Ile Lys Asp Ser Leu Phe Ala Gln Cys 4690	4695	4700
His Ala Leu Val Pro Pro Gln His Tyr Tyr Asp Ala Cys Val Phe Asp 4705	4710	4715 4720
Ser Cys Phe Met Pro Gly Ser Ser Leu Glu Cys Ala Ser Leu Gln Ala 4725	4730	4735
Tyr Ala Ala Leu Cys Ala Gln Gln Asn Ile Cys Leu Asp Trp Arg Asn 4740	4745	4750
His Thr His Gly Ala Cys Leu Val Glu Cys Pro Ser His Arg Glu Tyr 4755	4760	4765
Gln Ala Cys Gly Pro Ala Glu Glu Pro Thr Cys Lys Ser Ser Ser Ser 4770	4775	4780
Gln Gln Asn Asn Thr Val Leu Val Glu Gly Cys Phe Cys Pro Glu Gly 4785	4790	4795 4800
Thr Met Asn Tyr Ala Pro Gly Phe Asp Val Cys Val Lys Thr Cys Gly 4805	4810	4815
Cys Val Gly Pro Asp Asn Val Pro Arg Glu Phe Gly Glu His Phe Glu 4820	4825	4830
Phe Asp Cys Lys Asn Cys Val Cys Leu Glu Gly Gly Ser Gly Ile Ile 4835	4840	4845
Cys Gln Pro Lys Arg Cys Ser Gln Lys Pro Val Thr His Cys Val Glu 4850	4855	4860
Asp Gly Thr Tyr Leu Ala Thr Glu Val Asn Pro Ala Asp Thr Cys Cys 4865	4870	4875 4880
Asn Ile Thr Val Cys Lys Cys Asn Thr Ser Leu Cys Lys Glu Lys Pro 4885	4890	4895
Ser Val Cys Pro Leu Gly Phe Glu Val Lys Ser Lys Met Val Pro Gly 4900	4905	4910

Arg Cys Cys Pro Phe Tyr Trp Cys Glu Ser Lys Gly Val Cys Val His
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 Gly Asn Ala Glu Tyr Gln Pro Gly Ser Pro Val Tyr Ser Ser Lys Cys
 4930 4935 4940
 Gln Asp Cys Val Cys Thr Asp Lys Val Asp Asn Asn Thr Leu Leu Asn
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 Val Ile Ala Cys Thr His Val Pro Cys Asn Thr Ser Cys Ser Pro Gly
 4965 4970 4975
 Phe Glu Leu Met Glu Ala Pro Gly Glu Cys Cys Lys Lys Cys Glu Gln
 4980 4985 4990
 Thr His Cys Ile Ile Lys Arg Pro Asp Asn Gln His Val Ile Leu Lys
 4995 5000 5005
 Pro Gly Asp Phe Lys Ser Asp Pro Lys Asn Asn Cys Thr Phe Phe Ser
 5010 5015 5020
 Cys Val Lys Ile His Asn Gln Leu Ile Ser Ser Val Ser Asn Ile Thr
 5025 5030 5035 5040
 Cys Pro Asn Phe Asp Ala Ser Ile Cys Ile Pro Gly Ser Ile Thr Phe
 5045 5050 5055
 Met Pro Asn Gly Cys Cys Lys Thr Cys Thr Pro Arg Asn Glu Thr Arg
 5060 5065 5070
 Val Pro Cys Ser Thr Val Pro Val Thr Thr Glu Val Ser Tyr Ala Gly
 5075 5080 5085
 Cys Thr Lys Thr Val Leu Met Asn His Cys Ser Gly Ser Cys Gly Thr
 5090 5095 5100
 Phe Val Met Tyr Ser Ala Lys Ala Gln Ala Leu Asp His Ser Cys Ser
 5105 5110 5115 5120
 Cys Cys Lys Glu Glu Lys Thr Ser Gln Arg Glu Val Val Leu Ser Cys
 5125 5130 5135
 Pro Asn Gly Gly Ser Leu Thr His Thr Tyr Thr His Ile Glu Ser Cys
 5140 5145 5150
 Gln Cys Gln Asp Thr Val Cys Gly Leu Pro Thr Gly Thr Ser Arg Arg
 5155 5160 5165
 Ala Arg Arg Ser Pro Arg His Leu Gly Ser Gly
 5170 5175

<210> 1069

<211> 1173

<212> DNA

<213> Homo sapiens

<400> 1069

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gagtccttggg tgccaaacag atttgcatat caaggagaac ccaggagttt caaagaagcg 180
ctagtaagggt ctctgagatc cttgcactag ctacatcctc agggtaggag gaagatgggt 240
tccagaagca tgcgggtgct cctattgctg agctgcctgg ccaaaacagg agtcctgggt 300
gatatcatca tgagaccag ctgtgctcct ggatggtttt accacaagtc caattgctat 360
ggttacttca ggaagctgag gaactgggtct gatgccgagc tcgagtgtca gtcttacgga 420
aacggagccc acctggcatc tctctgaggt ttaaaggaag ccagcaccat agcagagtac 480
ataagtggct atcagagaag ccagccgata tggattggcc tgcacgaccc acagaagagg 540
cagcagtggtc agtggattga tggggccatg tatctgtaca gatcctgggtc tggcaagtcc 600
atgggtggga acaagcactg tgctgagatg agctccaata acaacttttt aacttggagc 660
agcaacgaat gcaacaagcg ccaacacttc ctgtgcaagt accgaccata gagcaagaat 720
caagattctg ctaactcctg cacagccccc tcctcttctt ttctgctagc ctggctaaat 780
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cataagaagt aaagatttga agacagaagg aagaaactca ggagtaagct tctagccccc 1080
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<210> 1070

<211> 158

<212> PRT

<213> Homo sapiens

<400> 1070

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Lys Thr Gly Val Leu Gly Asp Ile Ile Met Arg Pro Ser Cys Ala Pro
      20              25              30

Gly Trp Phe Tyr His Lys Ser Asn Cys Tyr Gly Tyr Phe Arg Lys Leu
      35              40              45

Arg Asn Trp Ser Asp Ala Glu Leu Glu Cys Gln Ser Tyr Gly Asn Gly
      50              55              60

Ala His Leu Ala Ser Ile Leu Ser Leu Lys Glu Ala Ser Thr Ile Ala
      65              70              75              80

Glu Tyr Ile Ser Gly Tyr Gln Arg Ser Gln Pro Ile Trp Ile Gly Leu
      85              90              95

His Asp Pro Gln Lys Arg Gln Gln Trp Gln Trp Ile Asp Gly Ala Met
      100             105             110

Tyr Leu Tyr Arg Ser Trp Ser Gly Lys Ser Met Gly Gly Asn Lys His
      115             120             125

Cys Ala Glu Met Ser Ser Asn Asn Asn Phe Leu Thr Trp Ser Ser Asn
      130             135             140

Glu Cys Asn Lys Arg Gln His Phe Leu Cys Lys Tyr Arg Pro
      145             150             155

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<210> 1071
 <211> 1114
 <212> DNA
 <213> Homo sapiens

<400> 1071
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 gaagcatgcg gctgctccta ttgctgagct gcctggccaa aacaggagtc ctgggtgata 180
 tcatcatgag acccagctgt gctcctggat ggttttacca caagtccaat tgctatgggt 240
 acttcaggaa gctgaggaac tgggtctgat ccgagctoga gtgtcagtct tacggaaacg 300
 gagccacact ggcattctatc ctgagtttaa aggaagccag caccatagca gagtacataa 360
 gtggctatca gagaagccag ccgatatgga ttggcctgca cgaccacag aagaggcagc 420
 agtggcagtg gattgatggg gccatgtatc tgtacagatc ctggtctggc aagtccatgg 480
 gtgggaacaa gcactgtgct gagatgagct ccaataacaa ctttttaact tggagcagca 540
 acgaatgcaa caagcgccaa cacttcctgt gcaagtaccg accatagagc aagaatcaag 600
 attctgctaa ctctgcaca gcccgcctct ctctcttctc gctagcctgg ctaaatctgc 660
 tcattatttc agaggggaaa cctagcaaac taagagtgat aagggcccta ctacactggc 720
 ttttttaggc ttgagacag aaacttttagc attggcccag tagtggcttc tagctctaaa 780
 tgtttgccc gccatccctt tccacagtat ccttcttccc tctctccctg tctctggctg 840
 tctcgagcag tctagaagag tgcattctca gcctatgaaa cagctgggtc tttggccata 900
 agaagttaaag atttgaagac agaaggaaga aactcaggag taagcttcta gacccttca 960
 gcttctacac ccttctgccc tctctccatt gcctgcaccc caccocagcc actcaactcc 1020
 tgcttgcttt tcctttggcc ataggaaggt ttaccagtag aatccttget aggttgatgt 1080
 gggccatata ttcttttaat aaaccattgt gtac 1114

<210> 1072
 <211> 1152
 <212> DNA
 <213> Homo sapiens

<400> 1072
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 agctacatcc tcagggttagg aggaagatgg cttccagaag catgaggctg ctctctattgc 180
 tgagctgcct ggccaaaaca ggagtccttg gtgatatcat catgagacc agctgtgctc 240
 ctggatgggt ttaccacaag tccaattgct atggttactt caggaagctg aggaactggt 300
 ctgatgccga gctcgagtgt cagtcttacg gaaacggagc ccacctggca tctatcctga 360
 gtttaaagga agccagcacc atagcagagt acataagtgg ctatcagaga agccagccga 420
 tatggattgg cctgcacgac ccacagaaga ggcagcagtg gcagtggatt gatggggcca 480
 tgtatctgta cagatccttg tctggcaagt ccatgggtgg gaacaagcac tgtgctgaga 540
 tgagctccaa taacaacttt ttaacttgga gcagcaacga atgcaacaag cgccaacact 600
 tcctgtgcaa gtaccgacca tagagcaaga atcaagattc tgctaactcc tgcacagccc 660
 cgtcctcttc ctttctgcta gcctggctaa atctgctcat tatttcagag gggaaacct 720
 gcaactaag agtgataagg gcctactac actggctttt ttaggcttag agacagaaac 780
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 totccagcct atgaaacagc tgggtctttg gccataagaa gtaaagattt gaagacagaa 960
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 tocattgcct gcacccaccc ccagccactc aactcctgct tgtttttctt ttggccatgg 1080
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 cattgtgtac at 1152

<210> 1073
 <211> 474

<212> DNA

<213> Homo sapiens

<400> 1073

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tgctatgggt acttcaggaa gctgaggaac tggctctgat ccgagctcga gtgtcagtct 180
tacggaaacg gagccacctt ggcatctatc ctgagtttaa aggaagccag caccatagca 240
gagtacataa gtggctatca gagaagccag ccgatatgga ttggcctgca cgaccacag 300
aagaggcagc agtggcagtg gattgatggg gccatgtatc tgtacagatc ctggtctggc 360
aagtcctatg gtgggaacaa gcactgtgct gagatgagct ccaataacaa ctttttaact 420
tggagcagca acgaatgcaa caagcgccaa cacttcctgt gcaagtaccg acca 474

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<210> 1074

<211> 1114

<212> DNA

<213> Homo sapiens

<400> 1074

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gaagcatgcg gctgctccta ttgctgagct gcctggccaa aacaggagtc ctgggtgata 180
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agtggcagtg gattgatggg gccatgtatc tgtacagatc ctggtctggc aagtcctatg 480
gtgggaacaa gcactgtgct gagatgagct ccaataacaa ctttttaact tggagcagca 540
acgaatgcaa caagcgccaa cacttcctgt gcaagtaccg accatagagc aagaatcaag 600
attctgctaa ctctctgaca gccctgtcct ctctcttctt gctagccttg cttaaatctgc 660
tcattatttc agaggggaaa cctagcaaac taagagtgat aagggcccta ctacactggc 720
tttttttagc ttagagacag aaactttagc attggcccag tagtggtctt tagctctaaa 780
tggttgcccc gccatccctt tccacagtat ccttcttccc tctctcccctg tctctggtg 840
tctcgagcag tctagaagag tgcattctca gccatgaaa cagctgggtc tttggccata 900
agaagtaaag atttgaagac agaaggaaga aactcaggag taagcttcta gacccttca 960
gcttctacac ccttctgccc tctctcatt gccctgcacc caccacagcc actcaactcc 1020
tgcttggttt tcttttggcc ataggaaggt ttaccagtag aatccttgct aggttgatgt 1080
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<210> 1075

<211> 614

<212> DNA

<213> Homo sapiens

<400> 1075

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cagggttaga ggaagatggc ttccagaagc atgcggctgc tcctattgct gagctgcctg 180
gccaaaacag gagtctctggg tgatatcatc atgagaccca gctgtgctcc tggatgggtt 240
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ctcgagtgtc agtcttacgg aaacggagcc cactggcat ctatcctgag tttaaaggaa 360
gccagcacca tagcagagta cataagtggc tatcagagaa gccagccgat atggattggc 420
ctgcacgacc cacagaagag gcagcagtgg cagtggattg atggggccat gtatctgtac 480
agatcctggg ctggcaagtc tctctcatt gccctgcacc caccacagcc actcaactcc 540
aacaactttt taacttgag cagcaacgaa tgcaacaagc gccaacactt cctgtgcaag 600
taccgacat agag 614

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<210> 1076

<211> 3345
 <212> DNA
 <213> Homo sapiens

<400> 1076

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cttcttatgc tttatttggc aactggatat ggccaagagg ggaagttagg tggacccttg 180
aaaccatga cattttctat ttatgaaggc caagaaccga gtcaaattat attccagttt 240
aaggccaatc ctccctgctgt gacttttgaa ctaactgggg agacagacaa catatttgtg 300
atagaacggg agggacttct gtattacaac agagccttgg acagggaaac aagatctact 360
cacaatctcc aggttgcagc cctggacgct aatggaatta tagtggaggg tccagtccct 420
atcaccatag aagtgaaggc catcaacgac aatcgaccca cgtttctcca gtcaaagtac 480
gaaggtctcag taaggcagaa ctctcgccca ggaaagccct tcttgtatgt caatgccaca 540
gacctggatg atccggccac tcccaatggc cagctttatt accagattgt catccagctt 600
cccagatgca acaatgtcat gtactttcag atcaacaaca aaacgggagc catctctctt 660
acccgagagg gatctcagga attgaatcct gctaagaatc cttcctataa tctggtgatc 720
tcagtgaagg acatgggagg ccagagttag aattccttca gtgataccac atctgtggat 780
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ag 3300
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<400> 1077

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<210> 1078
<211> 158
<212> PRT
<213> Homo sapiens
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<400> 1078

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Ala His Leu Ala Ser Ile Leu Ser Leu Lys Glu Ala Ser Thr Ile Ala
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Glu Tyr Ile Ser Gly Tyr Gln Arg Ser Gln Pro Ile Trp Ile Gly Leu
85 90 95

His Asp Pro Gln Lys Arg Gln Gln Trp Gln Trp Ile Asp Gly Ala Met
100 105 110

Tyr Leu Tyr Arg Ser Trp Ser Gly Lys Ser Met Gly Gly Asn Lys His
115 120 125

Cys Ala Glu Met Ser Ser Asn Asn Asn Phe Leu Thr Trp Ser Ser Asn
130 135 140

Glu Cys Asn Lys Arg Gln His Phe Leu Cys Lys Tyr Arg Pro
145 150 155

<210> 1079

<211> 158

<212> PRT

<213> Homo sapiens

<400> 1079

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35 40 45

Arg Asn Trp Ser Asp Ala Glu Leu Glu Cys Gln Ser Tyr Gly Asn Gly
50 55 60

Ala His Leu Ala Ser Ile Leu Ser Leu Lys Glu Ala Ser Thr Ile Ala
65 70 75 80

Glu Tyr Ile Ser Gly Tyr Gln Arg Ser Gln Pro Ile Trp Ile Gly Leu
85 90 95

His Asp Pro Gln Lys Arg Gln Gln Trp Gln Trp Ile Asp Gly Ala Met
100 105 110

Tyr Leu Tyr Arg Ser Trp Ser Gly Lys Ser Met Gly Gly Asn Lys His
115 120 125

Cys Ala Glu Met Ser Ser Asn Asn Asn Phe Leu Thr Trp Ser Ser Asn
130 135 140

Glu Cys Asn Lys Arg Gln His Phe Leu Cys Lys Tyr Arg Pro
145 150 155

<210> 1080

340

<211> 158
 <212> PRT
 <213> Homo sapiens

<400> 1080
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 Gly Trp Phe Tyr His Lys Ser Asn Cys Tyr Gly Tyr Phe Arg Lys Leu
 35 40 45
 Arg Asn Trp Ser Asp Ala Glu Leu Glu Cys Gln Ser Tyr Gly Asn Gly
 50 55 60
 Ala His Leu Ala Ser Ile Leu Ser Leu Lys Glu Ala Ser Thr Ile Ala
 65 70 75 80
 Glu Tyr Ile Ser Gly Tyr Gln Arg Ser Gln Pro Ile Trp Ile Gly Leu
 85 90 95
 His Asp Pro Gln Lys Arg Gln Gln Trp Gln Trp Ile Asp Gly Ala Met
 100 105 110
 Tyr Leu Tyr Arg Ser Trp Ser Gly Lys Ser Met Gly Gly Asn Lys His
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 <211> 832
 <212> PRT
 <213> Homo sapiens

<400> 1081
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 20 25 30
 Pro Met Thr Phe Ser Ile Tyr Glu Gly Gln Glu Pro Ser Gln Ile Ile
 35 40 45
 Phe Gln Phe Lys Ala Asn Pro Pro Ala Val Thr Phe Glu Leu Thr Gly
 50 55 60
 Glu Thr Asp Asn Ile Phe Val Ile Glu Arg Glu Gly Leu Leu Tyr Tyr
 65 70 75 80
 Asn Arg Ala Leu Asp Arg Glu Thr Arg Ser Thr His Asn Leu Gln Val

341

85					90					95					
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Thr	Ile	Glu	Val	Lys	Asp	Ile	Asn	Asp	Asn	Arg	Pro	Thr	Phe	Leu	Gln
		115					120					125			
Ser	Lys	Tyr	Glu	Gly	Ser	Val	Arg	Gln	Asn	Ser	Arg	Pro	Gly	Lys	Pro
	130					135					140				
Phe	Leu	Tyr	Val	Asn	Ala	Thr	Asp	Leu	Asp	Asp	Pro	Ala	Thr	Pro	Asn
145				150					155					160	
Gly	Gln	Leu	Tyr	Tyr	Gln	Ile	Val	Ile	Gln	Leu	Pro	Met	Ile	Asn	Asn
			165					170					175		
Val	Met	Tyr	Phe	Gln	Ile	Asn	Asn	Lys	Thr	Gly	Ala	Ile	Ser	Leu	Thr
		180					185						190		
Arg	Glu	Gly	Ser	Gln	Glu	Leu	Asn	Pro	Ala	Lys	Asn	Pro	Ser	Tyr	Asn
	195					200					205				
Leu	Val	Ile	Ser	Val	Lys	Asp	Met	Gly	Gly	Gln	Ser	Glu	Asn	Ser	Phe
	210					215					220				
Ser	Asp	Thr	Thr	Ser	Val	Asp	Ile	Ile	Val	Thr	Glu	Asn	Ile	Trp	Lys
225				230					235					240	
Ala	Pro	Lys	Pro	Val	Glu	Met	Val	Glu	Asn	Ser	Thr	Asp	Pro	His	Pro
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Ile	Lys	Ile	Thr	Gln	Val	Arg	Trp	Asn	Asp	Pro	Gly	Ala	Gln	Tyr	Ser
		260					265						270		
Leu	Val	Asp	Lys	Glu	Lys	Leu	Pro	Arg	Phe	Pro	Phe	Ser	Ile	Asp	Gln
	275					280						285			
Glu	Gly	Asp	Ile	Tyr	Val	Thr	Gln	Pro	Leu	Asp	Arg	Glu	Glu	Lys	Asp
	290			295					300						
Ala	Tyr	Val	Phe	Tyr	Ala	Val	Ala	Lys	Asp	Glu	Tyr	Gly	Lys	Pro	Leu
305				310					315					320	
Ser	Tyr	Pro	Leu	Glu	Ile	His	Val	Lys	Val	Lys	Asp	Ile	Asn	Asp	Asn
			325					330					335		
Pro	Pro	Thr	Cys	Pro	Ser	Pro	Val	Thr	Val	Phe	Glu	Val	Gln	Glu	Asn
		340					345						350		
Glu	Arg	Leu	Gly	Asn	Ser	Ile	Gly	Thr	Leu	Thr	Ala	His	Asp	Arg	Asp
	355			360					365						
Glu	Glu	Asn	Thr	Ala	Asn	Ser	Phe	Leu	Asn	Tyr	Arg	Ile	Val	Glu	Gln
	370			375					380						
Thr	Pro	Lys	Leu	Pro	Met	Asp	Gly	Leu	Phe	Leu	Ile	Gln	Thr	Tyr	Ala
385				390				395						400	

Gly Met Leu Gln Leu Ala Lys Gln Ser Leu Lys Lys Gln Asp Thr Pro
 405 410 415
 Gln Tyr Asn Leu Thr Ile Glu Val Ser Asp Lys Asp Phe Lys Thr Leu
 420 425 430
 Cys Phe Val Gln Ile Asn Val Ile Asp Ile Asn Asp Gln Ile Pro Ile
 435 440 445
 Phe Glu Lys Ser Asp Tyr Gly Asn Leu Thr Leu Ala Glu Asp Thr Asn
 450 455 460
 Ile Gly Ser Thr Ile Leu Thr Ile Gln Ala Thr Asp Ala Asp Glu Pro
 465 470 475 480
 Phe Thr Gly Ser Ser Lys Ile Leu Tyr His Ile Ile Lys Gly Asp Ser
 485 490 495
 Glu Gly Arg Leu Gly Val Asp Thr Asp Pro His Thr Asn Thr Gly Tyr
 500 505 510
 Val Ile Ile Lys Lys Pro Leu Asp Phe Glu Thr Ala Ala Val Ser Asn
 515 520 525
 Ile Val Phe Lys Ala Glu Asn Pro Glu Pro Leu Val Phe Gly Val Lys
 530 535 540
 Tyr Asn Ala Ser Ser Phe Ala Lys Phe Thr Leu Ile Val Thr Asp Val
 545 550 555 560
 Asn Glu Ala Pro Gln Phe Ser Gln His Val Phe Gln Ala Lys Val Ser
 565 570 575
 Glu Asp Val Ala Ile Gly Thr Lys Val Gly Asn Val Thr Ala Lys Asp
 580 585 590
 Pro Glu Gly Leu Asp Ile Ser Tyr Ser Leu Arg Gly Asp Thr Arg Gly
 595 600 605
 Trp Leu Lys Ile Asp His Val Thr Gly Glu Ile Phe Ser Val Ala Pro
 610 615 620
 Leu Asp Arg Glu Ala Gly Ser Pro Tyr Arg Val Gln Val Val Ala Thr
 625 630 635 640
 Glu Val Gly Gly Ser Ser Leu Ser Ser Val Ser Glu Phe His Leu Ile
 645 650 655
 Leu Met Asp Val Asn Asp Asn Pro Pro Arg Leu Ala Lys Asp Tyr Thr
 660 665 670
 Gly Leu Phe Phe Cys His Pro Leu Ser Ala Pro Gly Ser Leu Ile Phe
 675 680 685
 Glu Ala Thr Asp Asp Asp Gln His Leu Phe Arg Gly Pro His Phe Thr
 690 695 700

343

Phe Ser Leu Gly Ser Gly Ser Leu Gln Asn Asp Trp Glu Val Ser Lys
 705 710 715 720
 Ile Asn Gly Thr His Ala Arg Leu Ser Thr Arg His Thr Asp Phe Glu
 725 730 735
 Glu Arg Ala Tyr Val Val Leu Ile Arg Ile Asn Asp Gly Gly Arg Pro
 740 745 750
 Pro Leu Glu Gly Ile Val Ser Leu Pro Val Thr Phe Cys Ser Cys Val
 755 760 765
 Glu Gly Ser Cys Phe Arg Pro Ala Gly His Gln Thr Gly Ile Pro Thr
 770 775 780
 Val Gly Met Ala Val Gly Ile Leu Leu Thr Thr Leu Leu Val Ile Gly
 785 790 795 800
 Ile Ile Leu Ala Val Val Phe Ile Arg Ile Lys Lys Asp Lys Gly Lys
 805 810 815
 Asp Asn Val Glu Ser Ala Gln Ala Ser Glu Val Lys Pro Leu Arg Ser
 820 825 830

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 <212> DNA
 <213> Homo sapiens

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<210> 1083
 <211> 44
 <212> PRT
 <213> Homo sapiens

<400> 1083
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 Ile Tyr Asn Met Leu Pro Asp Lys Val Thr Leu Asp Val Pro Ala Glu
 20 25 30
 Cys Leu Ile Phe Pro Ser Gln Ile Arg Phe Glu His
 35 40

NOTICE OF EXERCISE

Isis Pharmaceuticals, Inc.
2292 Faraday Avenue
Carlsbad, CA 92008

Date of
Exercise:

To Whom It May Concern:

This constitutes notice under Isis Pharmaceuticals (the "Company") stock option granted to me on _____ (the "Option") that I elect to purchase the number of shares for the price set forth below:

Type of option (check one) Incentive ☐ Supplemental ☐

Number of shares as to
which option is exercised:

Certificates to be issued
in name of:

Social Security Number:

Total exercise price:

Cash payment delivered herewith:

By this exercise, I agree (i) to provide such additional documents as you may require pursuant to the terms of the Company's 1989 Stock Option Plan; (ii) to provide for the payment by me to you (in the manner designated by you) of your withholding obligation, if any, relating to the exercise of this Option; (iii) if this exercise relates to an incentive stock option, to notify you in writing within 15 days after the date of any disposition of any of the shares of Common Stock issued upon exercise of this Option that occurs within 2 years after the date of grant of this Option or within 1 year after such shares of Common Stock are issued upon exercise of this Option; and (iv) if this exercise relates to an option granted prior to May 17, 1991, that any shares purchased upon exercise of this option are subject to the Company's Repurchase Option, as defined in paragraph 5(i) of the 1989 Stock Option Plan.

Very truly yours,

Signature

Print Name

Please use this as my "6-month expedited" exercise: ? YES ? NO